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Navigating Public Health Services: Personal Connections vs. Bribes in the Northern Part of Cyprus

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ABSTRACT

This study examines the prevalence and dynamics of bribery versus the utilization of personal connections in accessing public health services by conducting a statistical analysis based on survey data from the northern part of Cyprus. The findings reveal that personal connections are more commonly used than bribery, with 74% of respondents using connections compared to 17% paying bribes. The study uncovers a complementary relationship between these practices, indicating that they often coexist rather than substitute for each other. Regression analysis highlights significant demographic factors influencing engagement in these practices, such as gender, socioeconomic status, and migration status. Vulnerable groups, including females, the poor, and immigrants, are disproportionately involved in bribery. Education emerges as a significant factor positively impacting both bribery and personal connections, while age shows differential effects on these practices. This study improves the understanding of the intricate dynamics of informal channels in accessing public health services and emphasizes the need for targeted policy interventions to address these complexities and ensure equitable access for all segments of society.

Keywords: Bribes, Corruption, Cyprus, Personal Connections, Public Health

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INTRODUCTION

Bribery, corruption, and the exploitation of personal connections within public services create substantial obstacles, significantly impacting economic growth, governance, equity, and the efficacy of public service delivery (Mauro, 1995; Gupta et al., 2002; Ivanyna et al., 2016; Dimant & Tosato, 2017; Machoski & de Araujo, 2020). These issues are particularly problematic in public health services, as they worsen both mental and physical health (van Deurzen, 2017; Achim et al., 2020; Sharma et al., 2021), increase mortality rates, reduce life expectancy and immunization rates, and delay vaccinations of newborns (Azfar & Gurgur, 2008; Li et al., 2018).

Bribery, which encompasses the offering, giving, receiving, or soliciting of something of value to influence the actions of officials or individuals in positions of power, serves as a means to expedite processes, secure favorable outcomes, or gain access to services (Olken & Pande, 2012). Conversely, the utilization of personal connections involves individuals leveraging familial ties, friendships, or other personal networks to secure advantages or preferential treatment in public services (Makovicky & Henig, 2018).

In many instances, bribery and the use of personal connections are intricately linked and coexist, posing dual threats to the principles of transparency, fairness, and equal access to public services (de Jong et al., 2015). Notably, vulnerable groups, such as those in poverty or belonging to certain racial and ethnic minorities, face an elevated risk of corruption (Mhazo & Maponga, 2022). For example, in the realm of public health, evidence suggests regressive payments, with impoverished patients bearing a disproportionately higher burden (Shabbir & Anwar, 2007; Rispel et al., 2016). Contrary to the notion that payment levels depend on a patient's ability to pay, research challenges this idea, demonstrating similar payment sizes across income groups in Hungary, with payment amounts more influenced by willingness to pay in transition economies. This underscores the regressive nature, as the poorest may exhibit a greater willingness to pay due to restricted healthcare access (Azfar & Gurgur, 2008; Gokcekus, 2024).

Importantly, members of vulnerable groups, by definition, lack the ability to leverage personal connections, as they do not have the connections or relationships necessary to gain advantages or preferential treatment in public services.

Considering these intertwined challenges, this study aims to unveil the prevalence and interconnection between bribery and the exploitation of personal connections in accessing public health services. Furthermore, it seeks to shed light on potential variations among diverse demographic groups. Specifically, the study raises the following three research questions: 1) Which is more prevalent in public health services: bribery or the use of personal connections? 2) Do bribery and the use of personal connections go hand in hand, or is it the other way around? 3) Are certain demographics more likely to engage in bribery, while others are prone to exploiting personal connections for preferential treatment in public services?

The motivation behind this study stems from the unique socio-political and economic context of the northern part of Cyprus, an area characterized by its unrecognized status and the resulting challenges in governance and public service delivery (Ker-Lindsay, 2011). Unlike the southern part of Cyprus and other EU countries, the northern part of Cyprus operates under distinct administrative and socio-economic conditions, making it a compelling case for examining corruption dynamics in public health services. This study aims to fill a critical gap in the literature by focusing on the dual phenomena of personal connections and bribery, two prevalent but often interlinked mechanisms through which individuals navigate the healthcare system. Unlike previous research that typically examines these practices in isolation, our study explores their coexistence and interplay, offering a more nuanced understanding of corruption in public health access. Additionally, the use of a comprehensive survey method tailored to capture the specific experiences and practices within the northern part of Cyprus provides novel insights into how demographic factors influence these behaviors. Our findings, which reveal significant demographic disparities and a complementary relationship between personal connections and bribery, contribute original knowledge to the field and suggest targeted policy interventions to promote equitable healthcare access. This study not only advances the academic discourse on corruption and informal practices but also has practical implications for improving governance and transparency in public health systems.

LITERATURE SURVEY

The use of social connections and payment of bribes is a convenient way for the average person to circumvent both market inefficiencies and governmental red tape, gaining a comparative advantage over their counterparts in their social class. Informal economic practices appear to be an innate facet of human interaction and a social adaptation for citizens to cope with the impersonal norms of modern economies (de Paiva, 2018). For instance, in many current or former communist countries, informal economic practices developed out of necessity to avoid state control and allocate resources more efficiently.

The healthcare sector is particularly vulnerable to informal economic practices due to the uncertainty and inelasticity of its demand, as well as the sheer number and diffusion of its providers (Vian, 2008). Given the circumstances surrounding the demand for healthcare, there is a need for a method to quickly gain access when medical emergencies arise. Because of the complications in healthcare provision, there are many opportunities for informal transactions.

Whether bribes or personal favors are more commonly used in healthcare services is a debated topic. The Global Corruption Barometer – Asia found that personal connections were more commonly used (Vrushi, 2020). However, the need for instant reciprocity in medical emergencies may necessitate the use of bribes. What determines if a society will use bribes or connections depends on various cultural factors. One factor is the level of societal kinship present in the country. Societies with tighter-knit communities, where people are more interconnected, tend to prefer connections over bribes. These societies place importance on family connections, which encourages favoritism (Akbari et al., 2019). This trend is more pronounced in relatively small and recently urbanized countries (Aliyev, 2018; Otten, 2018). In such societies, clan or family ties lead to more connections being used to gain an advantage (Sayfutdinova, 2018; Turaeva, 2018). In general, stronger social ties seem to increase the prevalence of favoritism (Zheng et al., 2020), supporting the idea that the type of economic system in a country affects the use of favors versus bribes.

As previously mentioned, in communist countries, favors were used to circumvent state control. However, as countries undergo economic transitions, the types of informal economic practices also change. China, Cuba, Russia, and many former members of Yugoslavia all illustrate this effect (Ledeneva, 2018;

Cherneski, 2018). With some elements of capitalism and the permission of private enterprise, the profit motive has expanded, and reciprocity has become more immediate. Thus, the use of direct monetary exchanges in the form of bribes has become more commonplace (Yang, 2018).

Gender may also play a role in shaping the prevalence of bribery and interpersonal connections. For example, women often prioritize "helping" behavior and emphasize the public interest, leading them to endorse ethical conduct more frequently and engage in illicit economic activities less often (Dollar et al., 2001). Additionally, women holding prominent positions in bureaucratic roles tend to experience lower levels of corruption (Swamy et al., 2001; Frank et al., 2011).

Another factor affecting the use of favors and bribes is class differences. Many of the social connections needed to give favors are formed in middle- and upper-class environments such as internships, fraternities, or university alumni associations (Kubbe, 2018). Social favors are typically used to gain mid- to lower-level bureaucratic positions, place one's children in better schools, or sidestep administrative roadblocks to small businesses. Middle-class workers largely fill these administrative positions, providing necessary services that can be expedited with a well-placed connection. Lower-class, blue-collar workers largely do not fill these roles and can typically only offer their manual labor to their peers. Additionally, members of the lower class do not have the resources to pay bribes to attain the same services and cannot achieve the same levels of social mobility. Members of the upper class are also less likely to use favors because it would betray their own class sensibilities and concede social equality with the middle class (Lomnitz, 2018).

DATA AND METHOD

To conduct the analyses, micro-data obtained from a survey conducted in the northern part of Cyprus between November and December 2021 were utilized.[2] The survey design closely followed Transparency International's Global Corruption Barometer surveys conducted in EU countries, ensuring comparability of results (Sonan & Gokcekus, 2022). The survey included three key questions: "Did you utilize public health services in the past year?", "Have you ever resorted to bribery, gifts, or favors to access necessary services at a public hospital or health institution? If yes, how often?", and "Did you rely on personal connections to access services at a public hospital or health institution? If yes, how often?"

Metron Analytics Services, a local survey firm in Nicosia, administered the survey using the computer-assisted telephone interviewing (CATI) method. This approach involved contacting participants via telephone and recording their responses directly into a computer system, thereby enhancing accuracy and efficiency. The sample comprised 1,000 participants aged 18 and above, randomly selected from the official voter registry, which includes all citizens over 18 years of age. This registry serves as a reliable source, ensuring a representative sample of the population: Given that the official electorate count was 198,624 in the 2020 elections, the survey was designed to achieve a significance level of 0.05 and a margin of error of ±3.1%, ensuring the results are statistically reliable. Additionally, the random sample was stratified to ensure proportional representation across various demographic segments, including age groups, gender, and residential areas, to accurately capture the diversity of the population.

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2 The Republic of Cyprus, established in 1960 as a power-sharing arrangement between the majority Greek Cypriots and the minority Turkish Cypriots, was divided in 1974 by Turkey's invasion. In the northern part of the island, the Turkish Cypriots formed the Turkish Federated State of Cyprus (TFSC) in 1975. Despite efforts at unification, negotiations stalled, leading to the unilateral declaration of independence by Turkish Cypriots in 1983, creating the Turkish Republic of Northern Cyprus (TRNC), recognized solely by Turkey. Cyprus joined the EU in 2004, and since the Republic of Cyprus is recognized by the international community as the sole government on the island, the entire island is considered an EU member state. However, under the Protocol 10 of the Accession Treaty, the EU acquis communitaire is suspended in the northern part of the island until a political solution is found. (For details, see Ker-Lindsay, 2011.) This political status quo also affects global assessments, as the northern part of the island is not included in most of the international surveys, including the global corruption barometer and corruption perception index reports.

Table 1 provides summary statistics for key variables related to the frequency of bribe payments, the frequency of using personal connections, demographic characteristics, and socioeconomic status among 497 individuals in our dataset who utilize public health services. Bribe payments, measured on a scale of 1 to 5 (1 = never, 2 = once or twice, 3 = more than once or twice, 4 = very often, and 5 = don't know), have a mean of 1.378 (SD = 1.001). Personal connections, ranging from 1 to 6 (1 = never, 2 = once or twice, 3 = more than once or twice, 4 = very often, 5 = don't know, and 6 = no answer), show a mean of 2.473 (SD = 1.276). Age, on a scale from 1 to 6 (1 for 18-24, 2 for 25-34, 3 for 35-44, 4 for 45-54, 5 for 55-64, and 6 for 65 and above) has a mean of 3.059 (SD = 1.383). Education levels, ranging from 1 to 5 (for elementary school 1, middle school 2, high school 3, university 4, master's and doctorate 5), have a mean of 2.915 (SD = 0.883). The data also indicates that 14.1% of participants are migrants (1 = those who were not born in Cyprus, 0 = otherwise), with females comprising 48.7% of the sample. Additionally, 32.8% of respondents are classified as poor (1 = those who were either 'barely getting by', "need to borrow to purchase the things they need' or 'can't afford to buy anything they need, and 0 = otherwise), while the majority (61.2%) reside in urban areas.

Table 1: Summary statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Bribe payments	497	1.378	1.001	1	5
Personal relations	497	2.473	1.276	1	6
Age	495	3.059	1.383	1	6
Education	497	2.915	0.883	1	5
Migrant	497	0.141	0.348	0	1
Female	485	0.487	0.500	0	1
Poor	488	0.328	0.470	0	1
Living in city	497	0.612	0.488	0	1

Based on survey results from the northern part of Cyprus, the brief literature survey, and in line with the three questions raised earlier, the study puts forward the following three sets of testable hypotheses:

H_{01}: There is no significant difference in prevalence between bribery and the use of personal relations in accessing public health services.

H_{11}: The prevalence of bribery is significantly different from the use of personal relations in accessing public health services.

H_{02}: There is no association between bribery and the use of personal relations in accessing public health services.

H_{12}: Bribery and the use of personal relations are significantly associated in accessing public health services, indicating they either go hand in hand (complementary) or it is either or (substitutes) rather than being independent of each other.

H_{03}: There is no significant difference in demographic groups regarding their likelihood to engage in bribery or exploit personal relations for preferential treatment in public services.

H_{13}: Certain demographics, i.e., vulnerable groups such as females, the poor, and immigrants, are significantly more likely to engage in bribery compared to exploiting personal relations for preferential treatment in public services.

To test the first hypothesis, a z-test was employed to compare the mean differences between paired observations of using personal connections and paying bribes. This test helps determine whether there is a statistically significant difference in the frequency of these two practices among respondents. Specifically, the z-test evaluates the null hypothesis that there is no difference in the prevalence of bribery and the use of personal connections, against the alternative hypothesis that a difference does exist.

For the second hypothesis, a contingency table was constructed to examine the relationship between the frequency of bribe payments and the frequency of using personal relations to access public health services. This table provides a cross-tabulation of the two variables, allowing for the identification of patterns and associations. The relationship was further analyzed by calculating chi-square statistics to test for independence and Cramer's V to measure the strength of the association. These statistical measures help to determine whether the use of personal connections and the payment of bribes are inde-

pendent behaviors or if they are associated, indicating either a complementary or substitutive relationship.

Finally, to test the third hypothesis, relevant coefficients were estimated and compared from two ordered logistic regression models. These models assess the frequency of bribe payments and the use of personal connections based on various demographic factors of health service users, such as age, gender, education level, migrant status, economic status, and urban versus rural residency. The ordered logistic regression allows for the estimation of the probability of different levels of engagement in bribery and personal connections, taking into account the ordinal nature of the dependent variables. By comparing the coefficients, the analysis identifies which demographic factors significantly influence the likelihood of engaging in these informal practices, providing insights into the sociodemographic determinants of corruption in public health access.[3]

FINDINGS

Are Bribes or Personal Connections Used More Frequently?

The hypothesis that there is no difference in the frequency of paying bribes and using personal connections to access public health services is tested by utilizing two different data sets. First, the responses to relevant questions are re-coded: unless a respondent selects 'never,' they are coded as having paid bribes (bribe pay = 1, otherwise 0) and as having used connections (connection = 1, otherwise 0) to access public health services. The decision to code 'don't know' and 'no answer' responses as indicative of engaging in bribery payments and using personal connections is based on recognizing respondents' potential reluctance to disclose involvement in undesirable or illegal activities, especially in smaller societies. The re-coding indicates that 74% of the respondents reported using personal connections, while 17% admitted to paying bribes. The z-test result compares the mean difference between paired observations

3 The equation for an ordered logistic regression model, is expressed as logit $(P(Y \leq j)) = \alpha_j + \beta_1 X1 + \beta_2 X2 + \ldots + \beta_p Xp + \epsilon$, where $P(Y \leq j)$ signifies the probability that the dependent variable Y falls into or below category j, with j ranging from 1 to j–1 categories, and j representing the total number of categories. The logit function, logit(·), computes the natural logarithm of the odds, while α_j is the intercept specific to category j. The coefficients $\beta_1, \beta_2, \ldots, \beta_p$ correspond to the independent variables X1, X2, ..., Xp, and ϵ accounts for the error term, capturing unexplained variability in the dependent variable (Long, 1997).

of 'connection' and 'bribe pay.' The mean difference is 0.565 (SD = 0.026). The calculated z-value is 484.79 ($p<0.01$), indicating a significant difference between the paired means of 'connection' and 'bribe pay.' This suggests a substantial and statistically significant difference between the frequency of bribe payments and using connections to access public health services. Second, to test the hypothesis that there is no difference in the frequency of paying bribes and using personal connections to access public health services, 'don't know' and 'no answer' responses are excluded. Doing so indicates that 72% of the respondents used personal connections, while 12% paid bribes. For the mean difference of 0.590, the calculated z-value is 484.50 ($p<0.01$), indicating a significant difference. Both test results suggest a substantial and statistically significant difference between the frequency of bribe payments and the use of connections to access public health services.

Do Paying Bribes and Using Personal Connections Go Hand in Hand?

The contingency table in Table 2 illustrates the relationship between bribe payments and the frequency of using personal relations to access public health services, in a more detailed manner. A significant association is evident, as indicated by a chi-square value of 197.92 ($p<0.01$) and Cramer's V of 0.32. The table shows that individuals who report 'very often' using personal relations for accessing health services are more likely to have made bribe payments. Conversely, those who report 'never' using personal relations for such purposes have the highest count in the 'Never' bribe payment category. The table highlights a clear pattern: as the frequency of using personal relations increases, so does the incidence of bribe payments, underscoring the interconnectedness between these variables in navigating public health services.

Table 2: Contingency table of bribe payments and using personal connections for accessing public health services

	BRIBE PAYMENTS					
PERSONAL CONNECTIONS	**Never**	**Once or twice**	**More than once or twice**	**Very often**	**No answer**	**Total**
Never	125	4	0	0	2	131
Once or twice	153	9	1	0	4	167
More than once or twice	49	14	1	0	3	67
Very often	71	15	8	6	6	106
No answer	6	0	0	0	11	17
Don't know	8	0	0	0	1	9
Total	412	42	10	6	27	497
	$\chi^2 197.92 = ^2 (p<0.01)$ Cramer's V = 0.32					

Figure 1 further demonstrates the association between bribe payments and using personal relations to access public health services. The presented findings reveal a strong association between the frequency of utilizing personal relations in accessing public health services and the propensity to engage in bribery. Among respondents who reported 'never' employing personal connections, a substantial 95% affirmed 'never' participating in bribery. Similarly, those who utilized personal connections 'once or twice' exhibited a high likelihood of 92% in refraining from bribery. However, as the frequency of using personal connections increased, a gradual reduction in the likelihood of never engaging in bribery was observed. Specifically, individuals employing personal relations 'more than once or twice' and those using them consistently ('very often') reported percentages of 73% and 67%, respectively, indicating a decreased likelihood of abstaining from bribery compared to the lower frequency categories. This nuanced exploration underscores the interplay between personal relations in health service utilization and the corresponding patterns of bribery engagement.

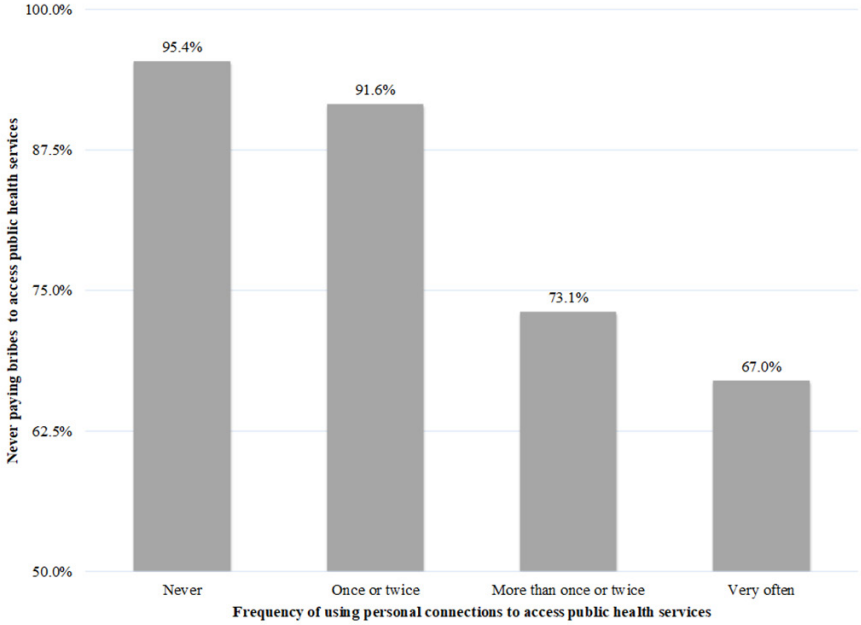

Figure 1. Frequency of using personal connections and "Never" paying bribes to access public health services

Are Different Groups Utilizing Bribe Payments and Personal Connections Differently?

In examining the determinants of frequency of bribe payments and using personal connections in accessing public health services, ordered logistic regression models with the same explanatory variables were employed. As is presented in Table 3, for both models, statistically significant likelihood ratio chi-square tests (LR χ^2 = 23.41, p-value=0.001 for 'Bribe Payments'; LR χ^2 = 32.16, p-value=0.001 for 'Personal Connections'), underscores the robustness of the estimation results.

Table 3: Ordered logit regression results – dependent variables 'Bribe Payments' and 'Personal Connections'

	Bribe Payments				Personal Connections			
Explanatory Variables	**Coefficient**	**Std. error**	**z**	**P > z**	**Coefficient**	**Std. error**	**z**	**P > z**
Age	-0.073	0.10	-0.74	0.459	-0.187	0.06	-2.96	0.003
Education	0.193	0.15	1.28	0.199	0.328	0.10	3.23	0.001
Migrant	0.650	0.32	2.02	0.043	0.033	0.24	0.14	0.891
Female	0.675	0.26	2.58	0.010	0.194	0.17	1.13	0.259
Poor	0.963	0.27	3.62	0.000	0.601	0.19	3.24	0.001
Living in city	0.198	0.26	0.76	0.450	-0.185	0.17	-1.08	0.280
/cut1	2.930	0.68		1.594	-0.504	0.44		-1.375
/cut2	3.794	0.70		2.430	1.036	0.45		0.158
/cut3	4.128	0.70		2.751	1.690	0.45		0.802
/cut4	4.340	0.71		2.952	3.743	0.50		2.768
No. of Obs.	477				477			
LR $x^2(7)$	23.41			0.001	32.16			0.001
Log likelihood	-292.14				-692.64			

The analysis of estimated coefficients of the explanatory variables in the ordered logistic regression models reveals nuanced relationships regarding bribe payments and personal connections. Age exhibits contrasting effects: while its coefficient of -0.073 (SE = 0.10) in the 'Bribe Payments' model implies a slight decrease in the log odds of higher bribe payments per year, this change is not statistically significant (z = -0.74, p-value=0.459). Conversely, in the 'Personal Connections' model, the coefficient of -0.187 (SE = 0.06) indicates a significant negative impact of age on personal connections (z = -2.96, p-value=0.003).

Education consistently shows a positive influence. In the 'Bribe Payments' model, its coefficient of 0.193 (SE = 0.15) suggests an increase in the log odds of higher bribe payments with each education level, although it is not statistically significant (z = 1.28, p-value=0.199). However, in the 'Personal Connections'

model, the coefficient of 0.328 (SE = 0.10) indicates a significant positive effect of education on personal connections (z = 3.23, p-value=0.001). Migrant status significantly increases the likelihood of higher bribe payments (coefficient = 0.650, SE = 0.32, z = 2.02, p-value=0.043) but does not impact personal connections significantly (z = 0.14, p-value=0.891). Females are more likely to engage in both bribe payments (coefficient = 0.675, SE = 0.26, z = 2.58, p-value=0.010) and personal connections (coefficient = 0.194, SE = 0.17, z = 1.13, p-value=0.259), although the effect is only significant for bribe payments. Individuals classified as poor exhibit a strong positive association with both bribe payments (coefficient = 0.963, SE = 0.27, z = 3.62, p-value=0.000) and personal connections (coefficient = 0.601, SE = 0.19, z = 3.24, p-value=0.001). Living in a city does not significantly affect either bribe payments (z = 0.76, p-value=0.450) or personal connections (z = -1.08, p-value=0.280).

To further compare and contrast the marginal impacts of demographic and socioeconomic factors on whether individuals pay bribes and use personal connections, average marginal effects (Delta-method dy/dx) were derived. Figure 2 presents the average marginal effects of different factors on whether someone "never uses personal connections" or "never pays bribes." For instance, on average, moving from one age category to the next increases the likelihood of never using personal connections by 0.035. However, age doesn't have a significant impact on whether someone avoids paying bribes, with an average increase of only 0.010. Higher levels of education lead to a decrease in the likelihood of never using personal connections, with each education level reducing this probability by 0.061 on average. Similarly, education has a negative effect on never paying bribes, lowering the likelihood by 0.025, although this effect is not statistically significant.

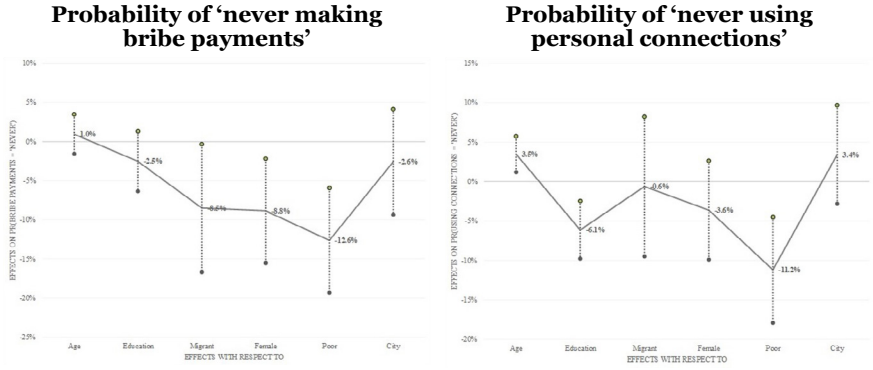

Figure 2. Average marginal effects (Delta-method dy/dx) on probability of 'never making bribe payments' and probability of 'never using personal connections' with 95% confidence intervals

Being a migrant has a negligible average impact on never using personal connections, decreasing the likelihood by 0.006. However, it significantly decreases the likelihood of never paying bribes, with an average reduction of 0.085 compared to non-migrants.

On average, being female decreases the likelihood of never using personal connections by 0.036. Similarly, it has a significant negative effect on never paying bribes, reducing the likelihood by 0.088 compared to males. Individuals classified as poor also experience a substantial decrease in both outcomes. Being classified as poor reduces the likelihood of never using personal connections by 0.112 on average and decreases the likelihood of never paying bribes by 0.126.

Living in a city has a minor impact on both outcomes. On average, it increases the likelihood of never using personal connections by 0.034 and decreases the likelihood of never paying bribes by 0.026, although these effects are not statistically significant.

The following table, Table 4 provides a concise summary of the hypotheses, the statistical tests used to evaluate them, the results of those tests, and whether each hypothesis was supported by the data.

Table 4: Summary of the hypotheses, statistical test, and results

Hypothesis	Statistical Test Used	Result (p-value, effect size)	Supported (Yes/No)
H01: There is no significant difference in prevalence between bribery and the use of personal relations in accessing public health services.	Z-test	Mean difference = 0.565, SD = 0.026, Z = 484.79, $p<0.01$	No
H02: There is no association between bribery and the use of personal relations in accessing public health services.	Chi-square test	$x^2 = 197.92$, $p<0.01$, Cramer's V = 0.32	No
H03: There is no significant difference in demographic groups regarding their likelihood to engage in bribery or exploit personal relations for preferential treatment in public services.	Ordered logistic regression	Age: Coef = -0.073, p=0.459 (Bribe); Coef = -0.187, p=0.003 (Connections); Education: Coef = 0.193, p=0.199 (Bribe); Coef = 0.328, p=0.001 (Connections); Migrant: Coef = 0.650, p=0.043 (Bribe); Coef = 0.033, p = 0.891 (Connections); Female: Coef = 0.675, p=0.010 (Bribe); Coef = 0.194, p=0.259 (Connections); Poor: Coef = 0.963, p=0.000 (Bribe); Coef = 0.601, p=0.001 (Connections); City: Coef = 0.198, p=0.450 (Bribe); Coef = -0.185, p=0.280 (Connections)	No for Age (Bribe), Yes for Age (Connections); No for Education (Bribe), Yes for Education (Connections); Yes for Migrant (Bribe), No for Migrant (Connections); Yes for Female (Bribe), No for Female (Connections); Yes for Poor (Bribe and Connections); No for City (Bribe and Connections)

DISCUSSION

The findings of this study illuminate the complex dynamics surrounding bribery and the exploitation of personal relations in accessing public health services. The analysis aimed to address three key research questions: the prevalence of bribery versus the use of personal relations, the association between bribery and personal connections, and the influence of demographic factors on engagement in these practices.

Firstly, the study reveals a significant difference in the frequency of bribery payments compared to the use of personal connections: a substantial majority of respondents (72%) resorted to personal connections to access public health services, while only 12% reported paying bribes. This stark contrast suggests that personal connections are more prevalent than bribery in navigating public health services in the northern part of Cyprus. These findings align with previous research indicating that social networks play a critical role in accessing

services in regions with weak formal institutions (Akbari et al., 2019; Zheng et al., 2020). However, they also contrast with studies from other contexts where bribery is more prevalent, highlighting the unique socio-political environment of the northern part of Cyprus (Azfar & Gurgur, 2008; Ledeneva, 2018).

Moreover, as summarized in Table 5, these frequencies differ significantly from what is observed in the southern part of Cyprus and in the EU (Kukutschka, 2021). When comparing the prevalence of using personal connections to access public health services, the study found that 72% of respondents in the northern part of Cyprus resorted to personal connections, whereas in the southern part of Cyprus, this figure was significantly lower at 27% and in the EU, it stood at 29% (Kukutschka, 2021). This substantial difference indicates a much higher reliance on personal relations in the northern part of Cyprus compared to the southern part of Cyprus and the broader EU context. These findings suggest that social networks and personal ties play a crucial role in navigating public health services in the northern part of Cyprus, consistent with theories on social capital and network-based access to services (Aliyev, 2018).

Table 5: The northern part of Cyprus compared to the southern part of Cyprus and the EU*

	Northern part of Cyprus	Southern part of Cyprus	EU
Didn't pay bribe or used personal relations	27%	75%	71%
Paid bribe or used personal relations	73%	25%	29%
Paid bribes	12%	3%	6%
Used personal relations	72%	27%	29%

* Base: People that came into contact with the service, excluding missing responses.
Source: Author's calculations and Kukutschka, 2021.

Shifting focus to the frequency of paying bribes, the analysis revealed that 12% of individuals in the northern part of Cyprus reported paying bribes to access public health services, while in the southern part of Cyprus, this figure was notably lower at 3% and in the EU, it stood at 6% (Kukutschka, 2021).

Although both Cyprus regions and the EU show instances of bribery payments, the northern part of Cyprus exhibits a higher prevalence of this practice compared to the southern part and the EU average. This disparity underscores the challenges and complexities associated with corruption and informal payments within the healthcare system in the northern part of Cyprus. Studies have shown that higher levels of corruption are often associated with weaker governance and economic instability, which may contribute to the higher prevalence of bribery in the northern part of Cyprus (Mauro, 1995; Vian, 2008).

Secondly, the analysis highlights a strong association between the frequency of utilizing personal relations and engaging in bribery. Among respondents who reported "never" employing personal connections, a substantial 95% affirmed "never" participating in bribery. Similarly, those who utilized personal connections "once or twice" exhibited a high likelihood of 92% in refraining from bribery. However, as the frequency of using personal connections increased, a gradual reduction in the likelihood of never engaging in bribery was observed. Specifically, individuals employing personal relations "more than once or twice" and those using them consistently ("very often") reported percentages of 73% and 67%, respectively, indicating a decreased likelihood of abstaining from bribery compared to the lower frequency categories. The contingency table and chi-square analysis support this pattern, demonstrating a clear trend where the frequency of using personal relations correlates with a higher propensity for engaging in bribery. These findings indicate a complementary relationship between these practices where individuals who frequently leverage personal connections are also more inclined to resort to bribery. This relationship is supported by literature on the dual nature of informal practices, suggesting that individuals often use multiple strategies to navigate systemic barriers (de Jong et al., 2015; de Paiva, 2018).

Thirdly, demographic factors play a significant role in shaping engagement with bribery and personal connections. The regression analysis reveals several noteworthy findings. Age exhibits contrasting effects with no significant impact on bribery but a significant negative influence on personal connections, suggesting that younger individuals are more likely to utilize personal relations. This finding is consistent with research showing that younger individuals may rely more on social networks due to limited financial resources (Frank et

al., 2011). Education level positively correlates with both bribery and personal connections, although the effect is more pronounced for personal connections. This indicates that higher education levels may increase one's social capital, facilitating the use of personal connections (Dollar et al., 2001; Swamy et al., 2001). Migrant status and gender also show significant associations, with migrants and females being more likely to engage in both practices. Furthermore, individuals classified as poor exhibit a strong positive association with bribery and personal connections, indicating that socioeconomic status influences engagement in these informal economic practices. These results align with studies highlighting the vulnerability of economically disadvantaged groups to corruption and their reliance on informal practices to access services (Rispel et al., 2016; Sharma et al., 2021).

The findings of this study have significant theoretical implications for understanding informal economic practices across different cultural and socioeconomic contexts. By revealing the complementary relationship between bribery and personal connections in accessing public health services, the study challenges the conventional view that these practices are mutually exclusive. This insight suggests that in environments where formal institutions are weak or inefficient, individuals may simultaneously engage in multiple informal practices to navigate systemic barriers. The differential impact of demographic factors such as gender, socioeconomic status, and migrant status further highlights the role of social capital and networks in shaping access to public services. In tighter-knit communities where social ties are stronger, personal connections may be more prevalent, while in more fragmented or recently urbanized societies, bribery may become a more common strategy. These findings underscore the importance of considering the cultural and socioeconomic context when analyzing informal economic practices (Makovicky & Henig, 2018; Yang, 2018). They also suggest that policy interventions need to be context-specific, addressing the unique social dynamics and institutional weaknesses of each setting to effectively combat corruption and promote equitable access to services. This study contributes to a more nuanced understanding of how informal economic practices operate and interact within diverse environments, providing a foundation for future research to explore these complex relationships further.

The practical implications of these findings are crucial for policymakers and public health administrators. Understanding that personal connections and bribery often coexist and are influenced by various demographic factors can help in designing more effective anti-corruption strategies. Targeted interventions should be developed to address the specific needs and vulnerabilities of different demographic groups, such as migrants, females, and economically disadvantaged individuals. For instance, strengthening social capital in communities with weaker social ties may reduce the reliance on bribery. Additionally, policy measures that enhance transparency and accountability in public health services can mitigate the opportunities for informal practices. Public awareness campaigns that educate citizens about the negative impacts of bribery and favoritism, combined with institutional reforms that streamline bureaucratic processes, can foster a culture of ethical conduct and equitable service delivery (van Deurzen, 2017; Vrushi, 2020).

CONCLUSION

In general, informal economic practices are ways for people to cope with a scarcity of resources and opportunities. Whether this scarcity stems from poverty or systemic mismanagement, necessity drives individuals to find ways to obtain the goods and services they need. Although bribery is a more overt form of corruption, the use of personal connections also grants individuals a distinctly unfair advantage in navigating bureaucratic red tape. The presence of these practices in any form runs counter to the liberal concept of meritocracy. In practice, they can erode public trust in institutions and even put a strain on the process of democracy (Ariely & Uslaner, 2017; Vrushi, 2020).

The findings in this study underscore the interconnectedness and complexity of bribery and personal connections in accessing public health services. While personal connections may serve as means of navigating bureaucratic hurdles and gaining preferential treatment, they also create conditions conducive to bribery. Vulnerable groups, including migrants, females, and the economically disadvantaged, are particularly susceptible to engaging in these practices, highlighting the need for targeted interventions and policy measures to address corruption and ensure equitable access to public services.

This study improves the understanding of informal economic practices and their implications for governance, transparency, and service delivery in public health services. While it provides valuable insights, it is not without limitations. The focus on the northern part of Cyprus may limit the generalizability of the findings, and the reliance on self-reported data introduces potential biases. Addressing these weaknesses and building upon the study's findings would contribute to a more comprehensive understanding of informal economic practices and their implications for governance, transparency, and service delivery in public health services.

Future studies could deepen the understanding and address gaps in the literature. Exploring the relationship between personal connections and bribery could provide insights into decision-making in public health services. Comparative studies across different settings and countries, as well as longitudinal studies, could reveal factors shaping engagement with informal economic practices. Addressing these challenges requires a comprehensive approach that combines regulatory measures, institutional reforms, and public awareness campaigns to foster transparency, accountability, and ethical conduct in public service delivery.

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