EARLY CHILDHOOD EDUCATION AND VILLAGE COR-RUPTION: AN EVIDENCE FROM INDONESIA

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ABSTRACT

This study explores the relationship between early childhood education (ECE) exposure and corruptive behavior among village leaders in Indonesia, particularly in light of the decentralization efforts that began in 2014 with the Village Fund Initiative. The objective is to determine whether village leaders who were exposed to ECE in their early years are less prone to engage in corrupt practices when managing public funds. The research utilizes a staggered difference-in-difference approach, comparing corruption cases between leaders exposed to ECE and those who were not. The study collected data from the Indonesian village census (PODES) between 1993 and 2018, focusing on Java Island. The corruption cases were sourced from the Indonesian Supreme Court, specifically analyzing the behavior of village heads elected post-2014. The methodology allowed for a quasi-experimental design by leveraging the timing of village elections as a key variable. The results ECE exposure did not universally reduce corruption across the sample. In fact, corruption surged among early-treated groups who experienced the program in the 1990s, suggesting that ECE alone is not a strong deterrent to corruption. However, for later-treated groups, ECE exposure did lead to a reduction in corrupt behavior, pointing to an adaptation effect as village leaders observed peers being prosecuted for corruption. In conclusion, while early childhood education plays a role in shaping governance outcomes, its impact on reducing corruption is nuanced. The findings suggest that integrating anti-corruption education into the ECE curriculum could strengthen governance at the village level, particularly when combined with robust law enforcement mechanisms.

KEYWORDS	*early childhood education, corruption, village leaders, Indonesia.*

INTRODUCTION

In the past three decades, many developing countries, including Indonesia, have decentralized governance, aiming to enhance public service delivery and reduce inequality. Notably, Indonesia initiated significant fiscal transfers to district-level jurisdictions in the early 2000s and introduced the "village fund" in 2014, benefiting over 70,000 local jurisdictions (Brodjonegoro & Asanuma, 2000) ; (Lewis, 2015). While these efforts aim to empower local governance, concerns persist regarding the capacity and accountability of village-level authorities, evidenced

by a surge in corruption cases among village leaders following the introduction of the village fund (Indonesia Corruption Watch). Corruption poses a significant threat to ongoing reforms and economic development, as it weakens democratic institutions and hampers public service delivery (Ferraz & Finan, 2008).

Thus, empirical analysis examining factors influencing corrupt behavior among public officials is crucial. Although existing studies focus on preventive measures such as random audits or public participation, there is limited empirical evidence on early childhood experiences' impact on corrupt behavior later in life. Early childhood education plays a crucial role in developing prosocial character, which can potentially mitigate corrupt behavior in adulthood (Brownell, 2013) ; (Zahn-Waxler & Smith, 1992). This study investigates whether village leaders' early childhood education influences their governance and management of public funds at the village level.

Utilizing a double difference framework and novel data combining Indonesian village census and corruption cases, our analysis reveals no significant overall effect of early childhood education on corruption cases among village leaders. However, we emphasize the importance of integrating anti-corruption education into early childhood curriculum to maximize the positive social impact of education.

According to previous research, (Ernest, 2024) also highlighted that nature play and the development of social-emotional skills in children through PAUD contribute to reducing negative behavior later in life, including behavior related to corruption. This study supports the idea that PAUD interventions can have a long-term impact on reducing antisocial behavior.

CONTEXT

Village Fund Initiative and the Elite Capture

The history of village governance in Indonesia traces back to the early 1940s, following the country's independence in 1945. Initially, villages operated as self-governing entities, characterized by autonomy and adherence to local customs and norms. However, the centralized governance under Soeharto's New Order regime from 1965 to 1998 replaced this decentralized structure, leading to uniform control over villages (Antlöv, 2003) ; (McWilliam, 2011). The reform in 1998 marked a shift towards democratic governance, granting villages greater local authority through participatory mechanisms (Antlöv, 2003). Subsequently, laws were enacted to formalize villages' autonomy and regulatory powers (Law/22/1999, Law/34/2004), affirming their jurisdictional rights.

In 2014, Indonesia introduced Law No. 6/2014, extending decentralization to villages and empowering them to manage special funds aimed at reducing social inequality and poverty (Lewis, 2015). Notably, the Village Fund initiative, launched in 2015, marked a significant step in decentralization, providing substantial resources to villages for essential services like healthcare, infrastructure, and education (Lewis, 2015). While intended to enhance local governance and service delivery, challenges arose regarding transparency and clean governance, particularly concerning the potential for elite capture and fiscal misappropriation (ICW, 2018); (Alfada, 2019).

Early childhood education (ECE) has long been part of Indonesia's educational landscape, dating back to the early 1900s and experiencing rapid growth since the 1990s (Ferary, 2021). The influence of European early childhood institutions,

notably the Fröbel School, led to the establishment of kindergartens like Bustanul Athfal of Muhammadiyah (Ferary, 2021). The presence of ECE institutions has expanded, supported by the Village Fund, aiming to nurture early childhood development and potentially impact future generations' character and behavior, including those of village leaders.
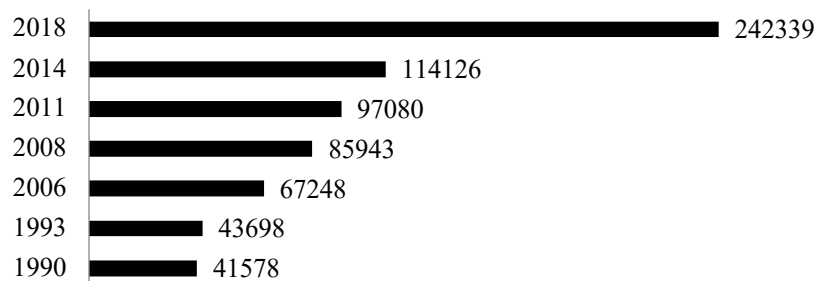
Figure 1. The numbers of ECE in Indonesia, 1993–2018
Source: National Statistics Agency (BPS), various years.

The expansion of early childhood development (ECD) in Indonesia has been substantial, marked by its inclusion in the National Education System Law in 2003 and the country's first-ever ECD Census in 2011 (Neuman et al., 2015). The census revealed a massive demand for ECD services, with nearly 32 million children under six years old. President Joko Widodo's inauguration of Program One in 2014 prioritized early childhood development, further underscored by Presidential Decree Number 5 of 2015, mandating village funds for ECD initiatives, aligning with the "one desa one PAUD" program.

A pivotal development in ECD, particularly relevant to this study, was the implementation of the Indonesian kindergarten curriculum in 1993. This curriculum focused on behavior and basic skills development, influenced by Indonesian values and norms, notably Pancasila (Abdullah, 2007). Investing in children during their early years, as emphasized by (Denboba et al., 2015), is crucial for shaping individuals and communities positively. The presence of ECE during village leaders' formative years, coupled with variations in election timing, serves as a quasi-random variable to examine the association between ECE and village-level governance. Early childhood education not only nurtures prosocial behavior and self-control but also potentially impacts later-life outcomes such as corruptive behavior, highlighting its significance in shaping individuals' social and emotional competencies well into adulthood.

The novelty of this study lies in exploring the link between exposure to early childhood education (ECE) and corrupt behavior of village heads in Indonesia, which has not been widely discussed in previous research. Most studies on corruption focus on more general factors, such as random audits, public participation, or fiscal oversight, but this study highlights the role of early educational experiences in influencing the moral integrity and behavior of village heads in adulthood.

The study also uses a staggered difference-in-difference approach that combines unique data from the Indonesian village census (PODES) and corruption case records from the Supreme Court, allowing for a quasi-experimental analysis based on variations in village head election cycles. The emphasis on different time

periods for groups exposed and not exposed to ECE also offers new insights into the long-term effects of ECE on corrupt behavior at the village level.

In addition, this study introduces the concept of an "adaptation effect," whereby the group of village heads exposed to ECE later experienced a decrease in corrupt behavior after seeing their peers prosecuted for corruption. This adds a new dimension to anti-corruption studies by showing that ECD can have greater positive effects when combined with strong law enforcement and social awareness of the dangers of corruption.

The primary objective of this study is to examine the long-term impact of early childhood education (ECE) exposure on the corrupt behavior of village leaders in Indonesia. Specifically, the study seeks to investigate whether village heads who were exposed to ECE during their early years demonstrate lower tendencies towards corruption when managing public funds, especially in light of the Village Fund transfer introduced in 2014. By leveraging a *staggered difference-in-difference* approach, the research aims to uncover potential relationships between early education experiences and ethical governance behavior in adulthood.

The findings of this study can inform policymakers about the importance of integrating character-building components, such as anti-corruption education, into early childhood education programs. This could be a strategy to foster future leaders with stronger ethical values and integrity.

RESEARCH METHOD

Data and Variables

The primary data of this study comes from the Indonesian village census, namely PODES of the Central Statistics Agency (BPS). BPS collects the data every three years. The village census in 1993 contained information at the baseline on the number of ECE and socio-economic characteristics of the village, which allows us to identify the key and covariates of interest variable. It includes the highest level of education achieved, age and gender of village-head also the period the length of tenure. We identify each village's election year calendar according to the length of tenure village-head. We repeat this procedure for each subsequent wave of PODES. Effectively, we use the periods of 1993 to 2018 of PODES waves.

The final data set contains information on a balanced sample of 9,452 villages in Java Island. We only focus on this island for two reasons. First, Java Island is the main concentration of the country's economic activity in which about two-thirds of the economic size is concentrated in the island. Second, due to the jurisdictional proliferation of districts and their lower administrative units, including villages, creating a nation-balanced panel of villages in Indonesia entails enormous tedious efforts. We also exclude non-relevant samples such as villages in DKI Jakarta, as they have no village. We discuss the implication of attrition to our identification in the Appendix.

The combination of ECE and year of election becomes our key identification variable that serves as a quasi-random treatment variable associated with the latter life governance of village leaders. For the number of corruptions of the village head and the number, we extract the directory of the Indonesian Supreme Court on their decision that is publicly available on their official website. We identify the subject and location of the corruption cases at the village level and merge them with our PODES database.

Data Sources

The primary data comes from the Indonesian village census (PODES), collected by the Central Statistics Agency (BPS) between 1993 and 2018. The census includes data on village socio-economic characteristics, the number of ECE centers, and demographic details such as the age, education level, and gender of village heads. Corruption data was obtained from the Indonesian Supreme Court, focusing on corruption cases at the village level.

Population and Sample:

The sample consists of 9,452 villages located on the island of Java, chosen due to its status as the center of Indonesia's economic activity. Villages in DKI Jakarta were excluded since they do not have the same village governance structure. The study focuses on villages whose leaders were elected following the introduction of the Village Fund in 2014.

Key Variables:

- **Independent Variable**: Exposure of village heads to ECE, determined by whether the village had an ECE center in 1993.
- **Dependent Variable**: The number of total corruption cases at the village level and corruption committed by the village head.
- **Control Variables**: Demographic characteristics of the village head (age, education, gender), the presence of a village assembly, and the village's socio-cultural characteristics.

Analytical Approach

The study applies a difference-in-difference approach using two models: static and dynamic. The static model compares villages with and without ECE in both the pre- and post-election periods. The dynamic model incorporates the timing of village elections and cohort effects, allowing for the evaluation of heterogeneous effects of ECE exposure on corrupt behavior over time.

Treatment Identification

Villages with ECE in 1993 are classified as the treatment group, while villages without ECE in the same year form the control group. The village election calendar, which varies across villages, serves as a quasi-random variable, helping to identify the causal effects of ECE on future corrupt behavior.

Outcome Measurement

The main outcomes measured include changes in the total number of corruption cases at the village level and the number of corruption cases involving the village head, both before and after village elections in the treated and control groups.

Validity Checks

To ensure the validity of the results, the study performs a parallel trend assumption test, which verifies that in the absence of treatment (ECE exposure), corruption trends would have been similar across the treatment and control groups. Additionally, the analysis controls for other socio-economic factors that might influence the outcomes.

Timeline

Our study's identification strategy hinges on two distinct yet interconnected events: the introduction of early childhood education (ECE) during the baseline period and subsequent instances of village corruption. Following (Martinez-Bravo, 2017) empirical approach, we exploit variations in village election years linked to

historical events to gauge effects on our variable of interest, with the pivotal event being the ECE curriculum cycle of 1993. The mechanism's timeline unfolds as follows: individuals exposed to ECE treatment in 1993, aged six or younger, are eligible to become village heads nineteen years later, potentially influencing corruptive behavior during or after the 2012 village head elections and subsequent cycles. However, variations exist, as some elected village heads may not have undergone ECE, either by choice or due to residency changes. Nonetheless, our analysis acknowledges these nuances, interpreting effects as intention-to-treat outcomes.
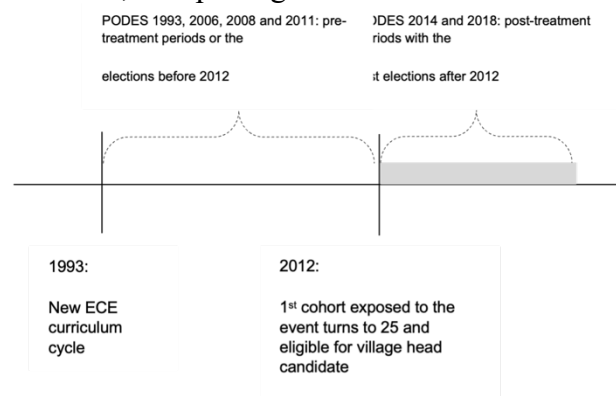
Figure 2. Timeline of ECE effects on village corruption

Indonesian early childhood education (ECE) curriculum undergoes revisions every ten years, with a significant cycle occurring in 1993. Villages with ECE implemented in or after 1993 experienced this curriculum update, providing enrolled cohorts with childhood personal character development compared to those in villages without ECE. Children aged six or younger enrolled in ECE in 1993 constitute the treatment group, while those who did not are the control group, as illustrated in Figure 2. By 2012, these children reached 25 years old, becoming eligible for village head elections. However, election years vary across villages, with newly educated cohorts only able to participate in subsequent cycles. For example, a village that held an election in 2011 would wait until 2019 for the 1993 ECE cohort's impact on the election. Consequently, the treatment group comprises villages with ECE in 1993 that held elections in 2012 or later, with subgroups categorized as early and later. Villages lacking ECE in 1993, regardless of election timing, serve as the comparison group, with an algorithm in Appendix A1 predicting election years based on village head tenure in 1993.

Model Specification

To highlight the impact of the presence of ECE and its curriculum cycle in 1993 on children's attitudes in adulthood, we utilize a difference-in-differences framework. The estimate exploits outcome differences of villages with and without ECE in 1993 in the pre-and post-treatment period with different timing (Callaway & Sant'Anna, 2021). The effective timing of the treatment is partly determined by the village's electoral calendar year, which varies across villages. For village i at time t, the "static" specification for the two-way fixed effects (TWFE) specification takes the form of:

$$y_{i,t} = \delta_t + \eta_i + \beta D_{i,t} + X'_{i,t}\gamma + v_{i,t} \quad (1)$$

y_{it} represents the outcomes of interest of this study, the number of corruption cases by the village head, and the total number of corruption cases in the village. D_{it} is a dummy indicating the presence of the treatment indicated by one if the village had ECE in 1993 *and* the village held election in 2012 or afterward. δ_t and η_i represents the time and individual fixed effects. X_{it} is a set of contemporaneous covariates which include education background and gender of the village head, the village secretary education background, the availability of legislative village institution or known as BPD, characteristic of village's culture (ethnic and community work program) in the village. v_{it} is the pure random error term.

We extend the specification of equation (1) into a "dynamic" TWFE specification accommodating possible impact heterogeneity from different timing, leading to two possible sources of heterogeneous treatment effects: cohort effect and anticipation effect. First is the different effect due to different cohorts' effects. As Figure 2 suggest, the treated group can be decomposed into two groups concerning election time and observed outcomes in the period of PODES's calendar year observation of 2014 and 2018.

The so-called *early* group is villages that effectively treated in 2012, 2013, and 2014 as their election cycle happened in these years. Another group is the so-called *latter* group which has effective treatment time in 2018. The *latter* group is younger than the early group, which is likely to have a different attitude toward corruptive behavior due to the educational experience. Moreover, the *latter* group also acts based on their observation toward the *early* group leading to a possible anticipation effect from observing corruptive behavior of other agents and how the law enforcement system works. For each of g as the two groups member of a total set group of $G = \{early, later\}$, the event-study or the "dynamic" TWFE specification takes the following form:

$$y_{i,t} = \delta_t + \eta_i + \Sigma\beta_g D_{i,t}^g + X_{i,t}'\gamma + u_{it} \qquad (2).$$

RESULT AND DISCUSSION

Pre-estimation

The Indonesian village heads are male-dominated. Only less than ten percent of the leaders are female, and the figure is persistent across our three years of observation in 2011, 2014, and 2018. The education attainment levels of these leaders are primarily senior high school and university level. In terms of the number of corruptions, there was a notable surge both for total corruption and corruption of the village head in 2014 when the Village Fund initiative was implemented relative to the baseline of 2011. Then, these figures drop significantly in the subsequent year of observation, 2018 (Table 1). The surge indicates that affluence was the temptation to misappropriate the village fund. Yet, it is followed by a steep learning curve in the subsequent years of these village leaders so that they did fewer misappropriations. Perhaps, the deterrence effect could come from witnessing their fellow village head official being prosecuted and the cases spread in the newspapers and televisions.

Table 1. Summary Statistics

Variables	The year 2011			
	Mean	SD	Min.	Max.
Total corruption	0.0056	0.0779	0.0000	2.0000
Corruption of village head	0.0014	0.0372	0.0000	1.0000
Village head age	44.8147	7.9399	22.0000	76.0000
Gender of village head=male	0.9328	0.2503	0.0000	1.0000
Education (share)				
Primary-unfinished	0.0017	0.0415	0.0000	1.0000
Primary	0.0045	0.0669	0.0000	1.0000
Junior high school	0.1573	0.3641	0.0000	1.0000
Senior high school	0.5720	0.4948	0.0000	1.0000
Diploma	0.0510	0.2201	0.0000	1.0000
University	0.2114	0.4083	0.0000	1.0000
Variables	The year 2014			
	Mean	SD	Min.	Max.
Total corruption	0.0068	0.1010	0.0000	3.0000
Corruption of village head	0.0038	0.0615	0.0000	1.0000
Village head age	44.8763	8.1228	22.0000	90.0000
Gender of village head=male	0.9069	0.2906	0.0000	1.0000
Education (share)				
Primary-unfinished	0.0000	0.0000	0.0000	0.0000
Primary	0.0009	0.0303	0.0000	1.0000
Junior high school	0.1423	0.3494	0.0000	1.0000
Senior high school	0.5892	0.4920	0.0000	1.0000
Diploma	0.0485	0.2148	0.0000	1.0000
University	0.2188	0.4134	0.0000	1.0000
Variables	The year 2018			
	Mean	SD	Min.	Max.
Total corruption	0.0008	0.0284	0.0000	1.0000
Corruption of village head	0.0002	0.0152	0.0000	1.0000
Village head age	48.2779	8.1320	26.0000	82.0000
Gender of village head=male	0.9104	0.2857	0.0000	1.0000
Education (share)				
Primary-unfinished	0.0000	0.0000	0.0000	0.0000
Primary	0.0003	0.0186	0.0000	1.0000
Junior high school	0.0886	0.2842	0.0000	1.0000
Senior high school	0.6032	0.4893	0.0000	1.0000
Diploma	0.0414	0.1991	0.0000	1.0000
University	0.2664	0.4421	0.0000	1.0000

Source: Author's calculation.

Our interest in investigation is whether the presence of ECE in village heads' early live projects is differential in terms of the surge in the corruption cases in the sense that the treatment group is expected to have slower growth. Similarly, as the case of the later time, whether the treatment group has a sharper decline in the corruption cases than the control group. To defend the validity of our estimates, we rely on parallel trend assumptions. In the absence of a treatment variable, i.e., the presence of ECE effect through the election cycle, the outcome growth should be parallel across the two groups, which could not be the case in our data.

Panel A–Total Corruption

Panel B–Corruption by Village Head

Panel C–Village head years of schooling
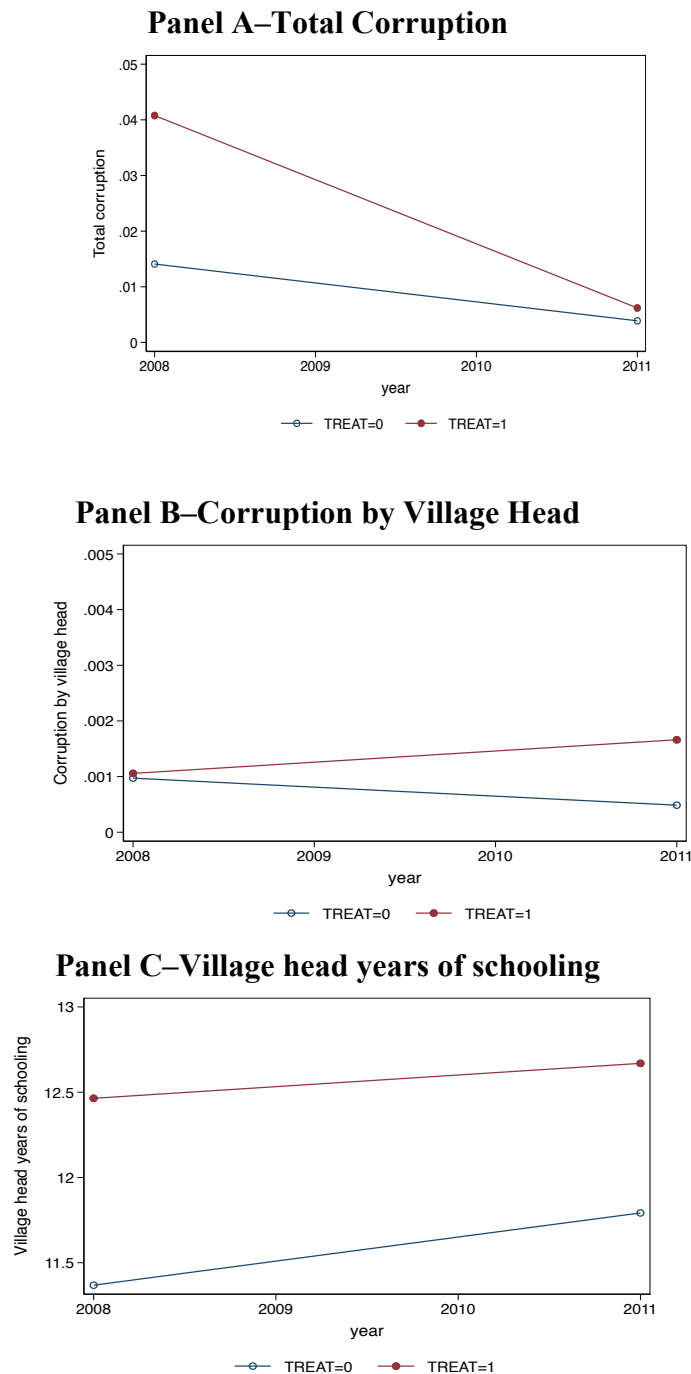
Figure 3. The pre-treatment outcomes mean by treatment status

The pre-treatment visual plot of outcomes means by treatment status of Figure 3 indicates a non-parallel trend. As for the total corruption, the treatment group outcome growth shows a sharper decline than the control group, implying a possible negative bias. Contrary, the corruption by village heads grows faster for treatment than the control group, creating a possible positive bias of the estimate. When we perform a formal statistical test for the pre-trend (all pre-treatment differences equal to zero), we cannot reject the null, implying that there is no systematic unparallel

trend (Chi-squared statistics=5.54 and p-value=0.352 for corruption by village head). Also, see the blue lines in Figure 4 of Panel C and Panel D that indicate the insignificant statistical difference across treated and control group outcomes within the pre-treatment period. However, the unparallel trend appears clearly for total corruption (Chi-squared statistics=67.37 and p-value=0.000). The blue lines in Figure 4 of Panel A and Panel B indicate the significant statistical difference between treated and control group outcomes within the pre-treatment period.

The educational outcome growth by treatment status, on the other hand, moved in a parallel trend, suggesting that the driver for bias is something else than socio-economic factors. We presume that the differential dynamics in law enforcement made the case. The fluctuations of the pre-treatment differences for total corruption captured by Panel A and Panel B of Figure 4 underscores this presumption. Nevertheless, we employ a conditioning strategy to estimate equation (2) to obtain a more conservative estimate. We adopt a conditioning strategy using the pre-treatment covariates by (Callaway & Sant'Anna, 2021), focusing on the factor that could serve as an anti-corruption measure at the village level. We use variables indicating whether there is a village assembly or not in each village and basic covariates of the village head's demography (age, education, and gender).

Main Result: The Aggregated Treatment Effects Estimates

The main findings of our estimate are summarized in Table 2. Overall, we found no effect of ECE exposure on both total corruption and corruption by village heads (see rows "TWFE" and "Simple weighted average". However, if we break down the effect by group (early or g=2014 and later or g=2018), the null effect masks two opposite effects: the increase in corruption for the early group and the decrease in corruption for the *latter* group. The results apply to both total corruption and corruption by village heads. Specifically, the coefficients on later groups are statistically significant at a one percent level. Referring to the row "Conditional parallel trend estimates" of Table 2, the presence of ECE in the village head's early life lowers the total corruption by 7.5 cases per million villages. This magnitude is almost 100% reduction in cases relative to the control group's mean at the baseline (see Figure 3–Panel A).

Similarly, the ECE village head's early life lowers village head's corruption by 5.2 cases per million number of villages. This magnitude is also relatively large compared to the mean of the control group at the baseline. Figure 4 visualizes the groups' specific effects in Table 2, referring to row "Conditional parallel trend".

Table 2. The aggregated treatment effect estimates

A. *Total corruption at village level*

(a) Unconditional parallel trends

	Partially aggregated		Single parameters
TWFE			0.0005
			(0.0014)
Simple weighted average			0.0006
			(0.0017)
Group-specific effects	g=2014	g=2018	
	0.0020	-0.0089***	
	(0.0019)	(0.0033)	

(b) Conditional parallel trends

	Partially aggregated		Single parameters
TWFE			0.0005
			(0.0014)
Simple weighted average			0.0000
			(0.0016)
Group-specific effects	g=2014	g=2018	
	0.0010	-0.0075***	
	(0.0018)	(0.0036)	

Note: Error standards grouped at the village level are shown in parentheses, with ***, **, and * indicating the level of statistical significance at the 1%, 5%, and 10% levels, respectively. The "TWFE" line displays the approximate coefficients for the dummy variable after treatment of a two-way regression with a fixed effect. The "Simple weighted average" row presents an estimate of equation (2). The "Group special effects" row reports the average effect of the treatment based on the time of treatment ( ). The "Unconditional parallel trend" line does not include the covariance of age, education, gender, and the existence of the village assembly as found in the "Conditional parallel trend" line.

Interpretation on the varying group's specific effects

The inconsistent effect across the *early* and the *latter* groups demands further investigation and interpretation. We carefully attribute the less corruption of the *latter* treatment group as the pure effect of the village head's exposure to ECE. Instead, we argue that the *latter* group's negative impact on corruption potentially comes from the "adaptation effect". In other words, local leaders exposed to ECE have a better response by reducing corruptive behavior after they see their fellow local leaders are prosecuted for committing Village Fund corruption. This effect, at least, provides a positive impact of early educational exposure conditional on law enforcement efforts.
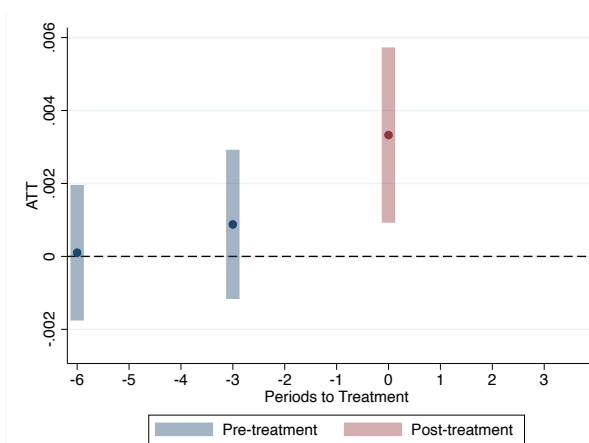
Panel A–Group: Early, Total Corruption
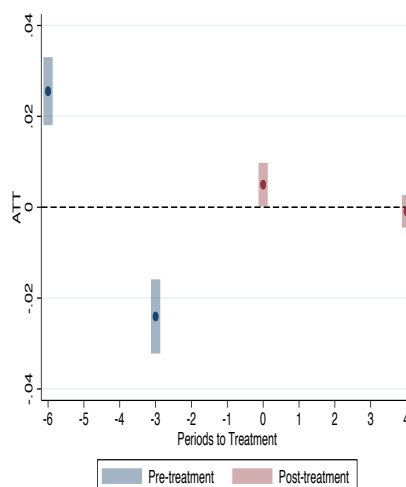
Panel B–Group: Later, Total Corruption
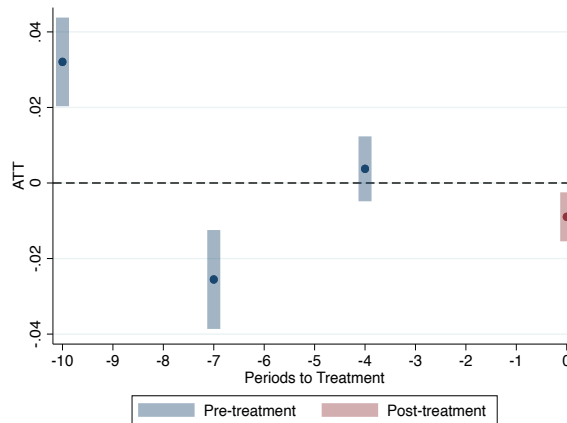
Panel C–Group: Early, Corruption by Village Head

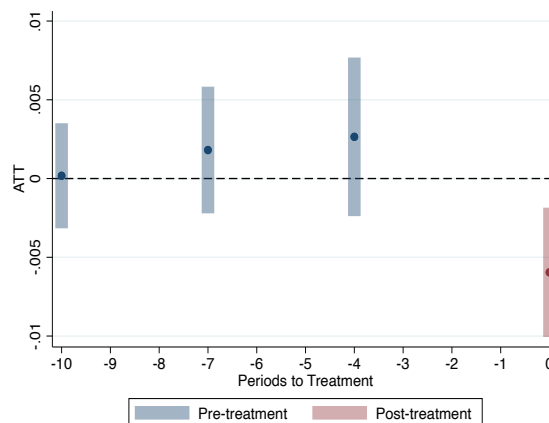Panel D–Group: Later, Corruption by Village Head

Figure 5. The Groups' Point Estimates Plot by Period to Treatment

Heterogeneous effects

In this section, we examine varying effects by demography. We sub-sample by education level, separating observations into highly-and low-educated village leaders. We use a university degree as the cutoff in determining the highly-educated

category. Table 3 summarizes the estimates by this category. The overall impacts by education type are consistent with estimates using whole samples with null effect.

Similarly, the group specific's impact for the *early* group results in a null effect estimated with whole samples. However, the estimate for group specific's impact for the *latter* group tells different results. The effect is negative and statistically significant for the low-educated type and not for the highly-educated type for total corruption as the outcome variable. On the other hand, referring to corruption by village heads, the effects are negative and statistically significant for both education types. Specifically, the magnitude is larger for highly-than low-educated type.

According to (Tomsa, 2015), leadership positions in Indonesia's parliamentary and executive offices during the reform era remain predominantly occupied by former officials, party members, and influential business figures who previously exercised power at the local level under the authoritarian regime. This continuity has led to corruption being seen as an inherent consequence of the competitive dynamics in Indonesia's local democracy, with the rising costs of election campaigns pushing candidates towards various illicit fundraising methods(Tomsa, 2015). Particularly in local executive elections, corruption is not only instigated but also exposed, as local elites exploit opportunities to undermine opponents through costly and prolonged legal battles. These elites do not operate as cohesive cartels (Tomsa, 2015) or unified factions of small-scale oligarchs (Winter), highlighting the fragmented nature of political power in contemporary Indonesia.

In this case, incredible discoveries are found in (Frechette, 2006), (Shabbir et al., 2016), who show that when a populace turns out to be more knowledgeable, defilement increments. They clarify this outcome by contending that, in non-industrial nations, the public area is the essential wellspring of work. In the nations, debasement in the public area is inescapable, and turning into a government employee requires training for anti-corruption skill.

Argues that the prosecution of corruption at the local level in Indonesia often appears arbitrary, revealing patterns that suggest these actions stem less from anti-corruption activism and more from intra-elite conflicts (Tomsa, 2015). Consequently, the increasing exposure of corruption cases should not be seen as indicative of enhanced societal accountability but rather as a manifestation of the intense competition within local politics and the continuous need for local elites to devise new strategies to undermine their rivals. Talented individuals, for instance, may have better information about the cost of public goods and thus be more capable of assessing whether the competitive tax level is justified. Conversely, the less competent are unable to monitor the ruling party, thereby increasing the likelihood that a corrupt group is caught as the number of educated individuals rises.

Table 3. Heterogeneous Effects

A. *Total corruption at village level*

(a) Highly-educated

	Partially aggregated	Single parameters
TWFE		-0.0056
		(0.0041)
Simple weighted average		-0.0030
		(0.0030)

Group-specific effects	g=2014	g=2018	
	0.0000 (0.0035)	-0.0166 (0.0126)	

(b) Low-educated

	Partially aggregated		Single parameters
TWFE			0.0008 (0.0016)
Simple weighted average			-0.0014 (0.0019)
Group-specific effects	g=2014	g=2018	
	-0.0002 (0.0022)	-0.0088*** (0.0032)	

B. *Village heads' corruption*
(a) Highly-educated

	Partially aggregated		Single parameters
TWFE			-0.0051* (0.0021)
Simple weighted average			-0.0032 (0.0028)
Group-specific effects	g=2014	g=2018	
	0.0031 (0.0022)	-0.0173*** (0.0076)	

(b) Low-educated

	Partially aggregated		Single parameters
TWFE			0.0015 (0.0009)
Simple weighted average			-0.0003 (0.0009)
Group-specific effects	g=2014	g=2018	
	0.0002 (0.0009)	-0.0039*** (0.0019)	

The results presented in Table 3 indicate heterogeneous effects of early childhood education (ECE) exposure on corruption levels at the village level, with distinct outcomes for highly-educated and low-educated village leaders. For highly-educated leaders, both the partially aggregated and simple weighted average estimates suggest a decrease in corruption, demonstrating ECE's potential effectiveness in mitigating corrupt practices. Conversely, the results for low-educated leaders are mixed: the partially aggregated estimate suggests a minor

increase in corruption, while the simple weighted average estimate indicates a slight decrease. Notably, the group-specific effects for 2014 and 2018 reveal a significant decrease in corruption, especially in 2018, highlighting ECE's potential to positively influence corruptive tendencies among low-educated leaders.

Overall, these findings highlight the significant potential of early childhood education (ECE) to reduce corruption. They emphasize the crucial role of educational interventions in fostering ethical governance. By shaping the values and behaviors of future leaders, ECE can play a pivotal part in promoting integrity. This underscores the importance of investing in education to support anti-corruption measures within local communities.

Discussion

The findings indicate that early childhood education (ECE) exposure reduces corruption cases at the village level, emphasizing the significance of both cognitive and noncognitive skill formation in shaping adult outcomes. This underscores the crucial role of ECE programs in promoting ethical leadership and anti-corruption values from an early age, contributing to the long-term development of communities. Lewis's research highlights the inadequate oversight and financial audits at the village level, leading to increased corruption, particularly in lower-income countries where low wages and poor working conditions contribute to corrupt practices.

Societal awareness of corruption's dangers has grown since 2017, prioritizing clean governance as a key concern. Meanwhile, studies suggest that corruption tends to rise with increased education levels, especially in countries where the public sector is the primary source of employment. However, the impact of education on corruption varies over time, with corruption cases diminishing among literate village leaders influenced by ECE. The analysis also reveals strategies for incumbent governments to address corruption, emphasizing the importance of education subsidies and institutional reform in reducing corruption rents and increasing reelection probabilities.

CONCLUSION

This study investigates the influence of early childhood education (ECE) exposure on village leaders' propensity for corrupt behavior and its subsequent impact on village-level corruption, particularly in light of the significant fiscal transfers to villages via the Village Fund initiative. Our analysis reveals that the anticipated long-term reduction in corrupt behavior among village leaders materialized notably in 2018. In summary, these findings underscore the potential of ECE in countering corruption and underscore the imperative of educational interventions in nurturing ethical governance and advancing anti-corruption initiatives within local communities.

Instead, the cohort treated early, or those who served at the Village Fund started cannot resist the temptation to commit corruptive behavior. Moreover, our results suggest that village leaders exposed to early childhood education who later experienced the Village Fund management and witnessed intense accusations of Village Fund fraud have a lower corruptive behavior. It consistent, that the corruption case at the elite's level is persistent and hard to eliminate, but it can be reduced and prevented directly.

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