



Empowerment or Indoctrination? Female Training Programs under Dictatorship

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## Abstract

Autocrats often control social organizations to disseminate their ideology. We examine the Pinochet dictatorship in Chile (1973–1990), where conservative military forces controlled female social organizations to promote traditional roles for women as mothers and housewives. Partnering with higher education institutions, the dictatorship delivered training programs aimed at fostering domestic skills. Our findings reveal these programs facilitated women’s entry into the labor market without changing their political views. Decades later, these programs are still linked to higher female labor force participation among women directly exposed during the dictatorship and their daughters raised in democracy.

**Keywords:** women, centers, labor force participation, empowerment, dictatorship.

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# 1 Introduction

Dictatorships often seek to control the population and retain political power (Slovik, 2012). Censorship, repression, coalition building, and spread of ideology are common strategies to achieve these goals (Bueno de Mesquita et al., 2003; Davenport and Armstrong, 2004; Guriev and Treisman, 2019).<sup>1</sup> Social organizations, such as unions or clubs, offer an opportunity for dictators to reach many people at once. Despite being fertile ground to build political support and disseminate ideology en masse (Satyanath et al., 2017), the relationship between dictators and social organizations has been relatively overlooked when compared to other aspects of authoritarian regimes. We fill this gap in the literature by evaluating the dissemination of authoritarian ideology through social organizations with the use of training programs promoting conservative values. Economically-motivated training programs have been shown to deliver gains for firms (Giorcelli, 2019; Bianchi and Giorcelli, 2022). Yet we know significantly less about ideologically-driven programs, the impact on individuals being trained, and authoritarian training more generally.

We study the case of female social organizations under the Pinochet regime in Chile (1973–1990), a 20<sup>th</sup> century dictatorship exhibiting censorship, state-led repression, cronyism, and distribution of economic resources (González and Prem, 2020; Esberg, 2020; González et al., 2020; Bautista et al., 2023a). Importantly for the purpose of our study, the dictatorship also tightly controlled female social organizations to build political support and disseminate their ideology. Managed by the First Lady since the mid-1950s, these organizations offered one of the most popular social activities for women in low- and middle-income neighborhoods. The dictatorship, under the leadership of Pinochet’s wife, Lucía Hiriart, radically transformed the activities of the organization, promoting the role of women as “mothers and housewives” and discouraging them from joining the labor force because, as Pinochet emphatically said, it “brings problems to families.”<sup>2</sup> To promote conservative gender roles, the dictatorship delivered more than two million training programs to hundreds of thousands of women who were enrolled in these female social organizations.

The ultimate goal of the training programs was to foster domestic skills for home use that women could also exploit to generate additional income in case it was needed, e.g., weaving and cooking. The programs were delivered in partnership with renowned higher education institutions

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<sup>1</sup>In a recent survey of the literature, Hassan et al. (2022) defines political control as “tactics engineered by political leaders to ensure widespread compliance with state policies and to minimize political resistance.”

<sup>2</sup>Similar gender roles were promoted in Nazi Germany, fascist Italy, and Francoist Spain (De Grand, 1976; Stephenson, 1978; Richmond, 2003). In fact, the nationalistic and conservative transformation of women centers under the Pinochet dictatorship was partially inspired by the Franco regime (Tessada, 2012, p. 272).

during the last years of authoritarian control (Valdés et al., 1989). These programs were large and affected mostly adult women who were married and had children. Using the 1982 census, we calculate that approximately 10 percent of working-age women were ultimately enrolled in these training programs. Yet female social organization exposed to the programs were also breeding grounds for patriarchal order, and political talks were routinely given at the onset of important referendums (Lechner and Levy, 1984). The exposure of these organizations to conservative ideology and to training programs suggests that female labor participation, conservative values, and political preferences could have been permanently affected and perpetuated the dictatorship's ideology.

To quantify the impact of the training programs, we collect new information on the location of buildings used by the dictatorship to deliver them. We use the geographical proximity to the training buildings as exposure to the programs. Then, we track marriage rates, fertility, and labor force participation by gender in 330 municipalities using six population censuses, from 1960 until 2017. In addition, we collect data on gender-specific political support for the dictatorship from gender-segregated booths in the 1988 referendum that triggered the democratic transition. Pinochet was democratically defeated in that referendum, the opposition coalition won the subsequent 1989 Presidential Election, and a new democratic government took office in March 1990. Econometrically, we develop a strategy to account for the observable differences across locations with differential geographic exposure to the buildings where the training programs were delivered. The research design is built around matching techniques that use municipality characteristics related to labor force participation and women before the arrival of the dictatorship. We validate this strategy by showing that, after accounting for a set of observable variables, municipalities with differential exposure to the training programs were in fact similar in terms of labor force participation, marriage rates, fertility, religiosity, education, and participation in social organizations. We also implement a difference-in-differences design exploiting the rise of training within municipalities.

The first part of our analysis shows that geographic proximity to the training buildings is strongly and robustly associated with higher female labor force participation in 1992. The absence of this relationship in 1982, when female social organizations were under authoritarian control but training programs and buildings were limited, suggests that the effect is explained by the training and not by other activities conducted by the military. In terms of magnitude, the presence of at least one training building in a municipality can explain two percentage points of labor force participation in 1992, which is equivalent to 40% of the increase in female labor market participation between 1982 (29%) and 1992 (34%). In contrast, women's political support for the dictatorship in the 1988 referendum, self-reported religious identities, and men's labor force participation are all unrelated to the location of training buildings. Consistent with the self-selection of adult married

women with children into female social organizations under dictatorship, we also find no effect on marriage rates, fertility, nor enrollment in higher education, even among the youngest cohorts.

Why are the training programs encouraging women to enter the labor market? Based on historical evidence, we interpret the programs as allowing women to acquire skills that were useful in specific occupations, to gather experience using skills which they already possessed, and to interact with other women in their neighborhood who could have given them information about job opportunities. By studying the types of occupations in which women close to the training buildings were employed in 1992, we tentatively conclude that work experience and social interactions are likely to be more important than the acquisition of skills. We observe the higher increases in female labor force participation in occupations related to sales (e.g. cashier) and domestic services. In contrast, we observe negligible employment effects in occupations such as cooking, clothing, and hairdressing, all of which require skills that were developed by the training programs. Overall, the evidence is consistent with the programs empowering women to enter the labor market.

The second part of our analysis documents the long-run impacts of exposure to the female training buildings. We begin by using our main empirical specification but now examining labor force participation of both men and women decades after the transition to democracy, i.e. in the 2002 and 2017 censuses. We find a persistent effect of two percentage points on female participation among the directly exposed cohorts, equivalent to 14% of the increase between 1982 (29%) and 2002 (43%). Interestingly, we find a smaller but statistically significant impact on the labor force participation of men, which we speculate could be driven by local labor market externalities. Both effects are attenuated in 2017, when the population directly affected by the training programs is reaching retirement age (60-65 years old). Finally, we use the 2017 census micro-data together with the observed household structure, to provide suggestive evidence of intergenerational effects and evolving gender norms. Daughters of women who were born in municipalities with training buildings under dictatorship have a one percentage point higher labor force participation. These intergenerational results hold even when comparing individuals of the same age and who live in the same municipality, and also when comparing labor market participation within households.

Our work contributes to the political economy literature studying social organizations. Previous research has focused predominantly on democracies and has shown how social movements affect political preferences and the policy-making process (Madestam et al., 2013), how social organizations prevent the election of populist candidates (Giuliano and Wacziarg, 2020; Boeri et al., 2021), or contribute to the rise of far-right political parties (Satyanath et al., 2017), and how peasant organizations disrupt policy implementation (González and Vial, 2021), among others. More

generally, the existence of local social organizations is commonly interpreted as dense social networks that facilitate the spread of information, and the prevalence of altruistic preferences in the underlying population.<sup>3</sup> Yet civic organizations can also be the strategic focus of autocratic leaders aiming to control society to remain in power, as evidence from chiefs in Sierra Leona suggests (Acemoglu et al., 2014). We contribute to this literature by examining the authoritarian capture of female social organizations and the effect of training programs which aimed to disseminate conservative ideology. Despite the prevalence of women organizations in other prominent conservative autocratic regimes such as Nazi Germany (Stephenson, 1978), our empirical study of ideological dissemination through the use of training programs under dictatorship is unique in the literature.<sup>4</sup>

Our study of women in the labor market relates to the literature documenting the drivers of the upward trend in female labor force participation over the 20<sup>th</sup> century. The pioneering research led by Claudia Goldin and other researchers in the US has transformed our understanding of the relation between marriage, education, and female labor force participation (Goldin, 1995; Goldin and Katz, 2002; Goldin, 2006; Fernández and Wong, 2014). Although the role of social organizations and training programs are mostly absent as a driver of labor force participation, the shock experienced by women at the centers could be interpreted as similar to other abrupt changes that have taken place throughout history. One of the most studied episodes is the role that World War I and II had on female labor force participation (Goldin, 1991; Goldin and Olivetti, 2013; Boehnke and Gay, 2022). The war served as a big push for women to enter the labor force, creating debates about the long-run effects on the labor force participation of the following generation (Acemoglu et al., 2004; Rose, 2018; Brodeur and Kattan, 2022). The war stands in stark contrast to the takeover of female social organizations by a conservative ruler, as women were promoted in their role as housewives. The similarity is that in both cases women acquired skills, experience, and were exposed to social interactions that likely decreased the cost of joining the labor force.

We also contribute to the literature studying the intergenerational transmission of female labor force participation over the last century. Despite being crucial for the dynamics of labor market trends (Fogli and Veldkamp, 2011; Fernández, 2012), empirical evidence supporting intergenerational effects is limited, and mostly comes from developed countries and World Wars I and II (Fernández et al., 2004; Gay, 2023; Aneja et al., 2024). Although we cannot fully disentangle

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<sup>3</sup>The traits usually emphasized are the ones affecting individual-level behaviors that involve other-regarding preferences. Multiple measures of social capital have been proposed. Perhaps the most common one is the use of electoral participation, a privately costly activity that has group-level returns (Guiso et al., 2004). The so-called “social capital” has been shown to affect a variety of preferences and behaviors (Putnam, 1993), including political participation.

<sup>4</sup>Related work has provided qualitative evidence supporting how women centers triggered female empowerment through education in the context of the Franco dictatorship (De Dios-Fernández and Mínguez-Blasco, 2021).

the relative contribution of mothers within the household from other local social interactions in driving the intergenerational transmission, our results do constitute novel evidence supporting the importance of training programs to decrease the cost of entering the labor market. These programs can trigger persistently higher female participation and positive intergenerational effects on their daughters. As such, our work also suggests an important role for local social organizations in shaping culture and norms over time (e.g. Giuliano and Nunn 2021) and represents novel evidence of intergenerational transmission of female labor force participation in a developing country.

Finally, our evaluation of a large targeted training program also speaks to a large literature in development and labor economics. One part of this literature studies a variety of programs in developing countries that aim to improve employment among low-income and young individuals (e.g. Blattman et al. 2014, 2022; Rau and García-Mora 2023). Another part focuses on interventions specifically targeting women, showing that work opportunities, training programs, and information campaigns are effective in delaying marriage and motherhood, and in increasing education and employment (e.g. Field et al. 2010; Jensen 2012; Bandiera et al. 2020). In contrast to existing research, the training programs that we study were implemented by a dictatorship with the goal of keeping women *out* of the labor force. Moreover, our focus on training programs for adult married women in low-income neighborhoods is also novel. Our findings of higher labor force participation among adult women suggest important roles for social interactions, information, and experience. The program we study is a group-level intervention, which has been shown to be particularly powerful in promoting women’s empowerment (Díaz-Martin et al., 2023).

## 2 Historical Background

The specific female social organizations that we study, which we refer to as “women centers,” emerged from grassroots organizations in the early 20<sup>th</sup> century and became official part of the state in the 1960s (Valdés and Weinstein, 1993).<sup>5</sup> The formal state institution governing the centers was created in 1964 and named CEMA (Mother Centers or *Centros de Madres* in Spanish). Since then, the centers were led by the First Lady. The newly created institution was defined as a “private law corporation, non-profit, oblivious to political and religious proselytism, which ob-

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<sup>5</sup>The earlier organizations were known as Centros Belén de Zárraga, emerged in working-class areas, and aimed to free women from male oppression and religious fanaticism. The early female organizations were key to give women the right to vote (Valdés and Weinstein, 1993, p. 32-47). The first attempt to institutionalize these centers took place in 1947, when the First Lady centralized their social activities under “El Roperero del Pueblo” (The Town Wardrobe). In the following years, a populist government together with other socioeconomic factors pushed women to retreat from the public world (Kirkwood, 1986), delaying the formal incorporation of women centers into the state apparatus.

jective is to achieve integral development of the Chilean women at the centers and through these achieve development of their nuclear families.” In practice, the centers were groups of female neighbors who gathered regularly in one of their houses to support each other and to channel social demands to central state institutions. Participation was voluntary and members were usually adult housewives with limited financial resources (Valdés and Weinstein, 1993, p. 110). Women centers were ubiquitous in the early 1970s: 25,000 centers existed and approximately half of the two million adult women in the country participated in their activities (Valdés et al., 1989).

## 2.1 Women centers under dictatorship

Shortly after the 1973 coup against socialist president Salvador Allende, the dictatorship dismantled or controlled social organizations depending on their perceived threat to the new regime. After acknowledging the important role of women as opposition to the Allende government, dictatorial leaders incentivized women to retreat to their roles of housewives and mothers (Valdés and Weinstein, 1993; Power, 2002). Under the leadership of Lucía Hiriart, the dictator’s wife, women centers changed radically.<sup>6</sup> These social organizations were thought to be important to build sustainable political support (Franceschet, 2005). In a speech titled “The military regime speaks to the women of Chile,” given by Augusto Pinochet in April 1974, the dictator was clear: “whoever wants to govern the country and aspires to political stability, needs to have the support of women.”<sup>7</sup> In addition, the dictatorship viewed in the centers an opportunity to spread their conservative ideology. The regime had a patriarchal view of society where women played the role of mothers and wives, and men the role of economic providers and household leaders (Valdivia, 2010, p. 88). From the start, the dictatorship exerted tight control of women centers by implementing hierarchy and limiting their autonomy (Valdés et al., 1989, p. 32). As a consequence, both the number of centers and their members decreased significantly (see panels A and B in Figure 1).<sup>8</sup>

Women centers under dictatorship consisted of 25-80 members who gathered regularly to sup-

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<sup>6</sup>After the 1973 coup a *Junta* composed by all members of the Armed Forces governed the country. Lucía Hiriart, being the wife of the Commander-in-Chief of the oldest branch of the Armed Forces, and daughter of a politician close to female social organizations in the 1940s, became the leader of women centers in 1973 (Matus, 2013, p. 143). Later, she also became the head of a dozen of other social organizations such as the Secretary of Women.

<sup>7</sup>See also Franceschet (2005, p. 60): “The activism of anti-Allende women in the 1970-73 period led the military to see women as a crucial support base for their regime. To further increase their support among women and [...] to control the organization and participation of women, the military government oversaw the reorganization of CEMA.”

<sup>8</sup>Other significantly more progressive women organizations were outside of the dictatorial institutional framework and existed as a counter-force to official women centers (Valdés and Weinstein, 1993, p. 87-88). Examples of these organizations include the Asociación para la Unidad de las Mujeres (ASUMA), the Círculo de Estudios de la Mujer (CEM), and the new Movimiento Pro Emancipación de la Mujer Chilena (MEMCh 83), among many others.



port themselves through training and talks. The centers helped to find solutions to daily problems faced by low and middle-income women within their neighborhoods. Eligibility rules governed who could become a member. Anyone who was either mother, married, *or* older than 18 years old was eligible (i.e. teenager mothers were eligible). To join a local center, you needed to be introduced by an older member and pay a member fee. An official report produced by CEMA in 1982 reveals that there were 9,061 centers throughout the country and 230,000 members. That is, there were more than 25 centers per municipality and more than 10% of adult women were enrolled.<sup>9</sup> Although large, participation of women in the centers decreased when compared to the early 1970s. Moreover, it is likely that relatively conservative women self-selected into the centers under dictatorship.

Organizationally, the centers were tightly controlled by the dictatorship. Representatives of Lucía Hiriart, known as “volunteers”, monitored all activities. The 5,000 volunteers were wives of officers in the Armed Forces. After some continuity of activities in the 1970s, there was a turning point in 1981 as statutes changed and the enhanced “Fundación CEMA-Chile” was born. From then on, there was an explosion of training programs for women, which were thought to “constitute the master key for a world of possibilities.” As mentioned by Valdés and Weinstein (1993, p. 94) “the training programs did *not* aim to promote the incorporation of women into the labor force, but rather to enhance their role as mothers and housewives.” In fact, Pinochet emphatically stated: “I am convinced that the increasing participation of women in the labor market brings problems to families, particularly to the woman as she needs to combine taking care of her children and the house with her job.”<sup>10</sup> To carry out the training and other activities, CEMA was primarily funded by a share of revenues from the National Lottery, but also by private donations, movie theatre taxes, and the horse riding annual meeting, among others (Valdés and Weinstein, 1993, p. 98).

## **2.2 Training and indoctrination**

The training programs were the most valued activity by women enrolled in the centers and the distinctive feature of CEMA under dictatorship (Valdés et al., 1989, p. 65). The programs were delivered by renowned higher education institutions (e.g. INACAP, DUOC, University of Santi-

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<sup>9</sup>Although women centers were ubiquitous, and CEMA reports suggest that most municipalities had at least one, there is unfortunately no information on the exact locations of these 9,000 centers. Instead of exposure to women centers, our analysis relies on exposure to the approximately 200 training buildings that CEMA used.

<sup>10</sup>Periodical magazines were distributed to spread the ideological view that the regime had of women and to show the various social activities sponsored by CEMA and other state organizations targeting women such as the Secretary of Women. These magazines published extensive interviews with Lucía Hiriart and Augusto Pinochet.

ago) inside hundreds of training buildings which accommodated women from multiple centers. The programs aimed to train women in the production of homemade crafts: weaving, painting, sewing, cooking, hairstyling, and handicraft production. The price paid by a member to enroll in a program was close to three percent of the minimum wage. Enrollment in the programs was voluntary, but military wives kept track of everyone who did not sign up. The revenues were used to pay volunteers. The production coming from the programs (e.g. toys) was given to CEMA.

Panel C in Figure 1 shows the number of members enrolled in the training programs per year. Overall, more than 2.3 million programs were delivered under dictatorship. However, members could have enrolled in multiple programs, making it difficult to estimate how many women were actually trained.<sup>11</sup> We do know that the centers had consistently more than 230,000 members every year since 1981 until the end of the dictatorship. Members also had to pay a fee to join each program—and women constantly complained about how expensive these were (Valdés and Weinstein, 1993, p. 112)—limiting the number of programs that women could attend due to budget constraints. Considering these restrictions, and given that there were close to 3 million 18-60 year old women in the 1982 census, we then calculate that the programs likely trained at least 8 percent of working-age women in the country. Moreover, the female labor force participation was 29 percent in 1982, which implies that 2.1 million women were out of the labor force. Then, the programs likely trained 11 percent of women who were outside of the labor force.

What we know about the indoctrination at the centers comes from survey evidence (Valdés et al., 1989, p. 70). Volunteers monitoring activities were appointed by the dictatorship, were supporters of the dictatorship, stayed in power for extended periods, and had extensive information about members. Members of the centers needed an identification card which was only obtained after providing information about them and their families. All activities were decided by volunteers and conversations about politics and household finance were forbidden. The centers also had rules, including minimum attendance, and if broken membership could be revoked. Women paid fines when absent and volunteers assigned grades that evaluated the performance of members and their behavior. Lechner and Levy (1984) argue that centers served the purpose of disciplining and reinforced a patriarchal order. Moreover, the centers attempted to be removed from politics, but talks were routinely offered before important referendums, usually promoted as civic education for the members (Matus, 2013, p. 189). The talks at centers were given by people from the Secretary of Women and involved Christian and patriotic values (Valdés and Weinstein, 1993, p. 103).

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<sup>11</sup>Since 1964 women centers provided training, but the numbers were significantly lower. Riquelme (1987) calculates that less than 40,000 women were trained per year in the late 1960s.

### 2.3 Trends in female labor force participation

Given our interest in the participation of women in the labor force, allow us to briefly discuss trends in historical perspective. The gender gap in labor force participation in Chile has been closing in the past 40 years. Panel A in Figure 2 shows participation rates by gender using historical statistics constructed by Díaz et al. (2016). Panel B displays similar trends using survey data for the capital city. In the early 1970s labor force participation was close to 30% among women and close to 80% among men. Women have doubled their labor force participation since then, closing the gender gap from 50 to 20 percentage points. This convergence appears to have started under dictatorship.

Previous work has shown that the higher female participation is driven by high-school educated married mothers, and attribute this increase to economic growth and employment opportunities (Larrañaga, 2007), with a more nuanced impact of the trade liberalization that took place under dictatorship (Contreras et al., 2004). Longer school schedules and after-school programs have also incentivized women to join the labor force in recent decades (Martínez and Peticar, 2017; Contreras and Sepúlveda, 2017; Berthelon et al., 2023), with a less clear role for the expansion of the pre-school system (e.g. Medrano 2009; Aguirre 2013). Trends in education and fertility have also affected female participation (Contreras et al., 2005), with some evidence pointing to gender norms as a constraining force (Contreras and Plaza, 2010).<sup>12</sup> Yet the trends in Figure 2 suggest that the 1980s were a key period for working-age women. We hypothesize that the training programs promoted by the dictatorship were an important driver of the higher participation.

## 3 Data Construction

This section describes the construction of a dataset with information for 330 municipalities spanning six decades, two of which were under dictatorship. We describe how we measure the local exposure of women to the training programs under dictatorship, how we measure labor force participation by gender, and provide an overview of the main variables used in our research design.

### 3.1 Training buildings

A series of investigations conducted in the early 2000s revealed the location of the buildings used by CEMA to train women during the dictatorship. The process began after an investigation carried

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<sup>12</sup>Early cross-sectional research for the case of Chile also pointed to human capital and fertility as key drivers of female labor force participation. See, for example, Pardo (1987); Muchnik et al. (1991); García (1995).

out by the US Senate found a network of bank accounts where dictator Augusto Pinochet had been secretly transferring millions of dollars. That discovery allowed the Chilean justice to scrutinize the properties owned by Lucía Hiriart, Augusto Pinochet's wife and president of CEMA. Shortly after, all buildings owned by CEMA were revealed (CIPER, 2012; Fossa and Arcos, 2012). The buildings were crucial to accommodate the large number of women enrolled in the programs.

We gathered and harmonized all available information about the buildings owned by CEMA. Overall, we observe a total of 208 buildings located throughout the country. These buildings were transferred from the state to CEMA between 1974 and 1995. We observe the exact year of the transfer. Panel D in Figure 1 shows that the vast majority of these buildings were transferred between 1984 and 1990. According to the investigations, the majority of buildings were donated by direct order of dictator Augusto Pinochet, when his wife was legally in charge of CEMA. This type of transfer was legal as long as the recipient was a nonprofit organization, the building was not sold within five years, and the building was used for the purposes of the organization. Although CEMA did not always fulfill all of these requirements, the investigations concluded that the buildings were used by the organization for the purpose of the training programs during the years of the dictatorship. Most of these buildings were sold or leased after the transition to democracy.

Figure A.1 displays the locations of the training buildings. As can be seen in the map, even women in the most remote locations in the north and the extreme south of the country were exposed to the programs. By the end of the dictatorship, CEMA had 208 buildings in 102 municipalities.

### **3.2 Census and electoral data**

We combine the location of the training buildings with municipality-level information from the population censuses in 1960, 1970, 1982, 1992, 2002, and 2017. We use these data to primarily track the evolution of labor force participation across municipalities, over time, and by gender. We also use other information for the implementation and validation of our empirical strategy. In particular, we construct municipality-level measures for population by gender, population density, the share of the population living in rural areas, age composition, years of education, literacy rates, and the number of houses per capita which we use as a proxy for local average income. However, there are two data limitations that are worth stressing. First, the micro-data by individual is only available since 1982. Therefore, we have to rely on municipality-level aggregates published by the National Institute of Statistics for the 1960 and 1970 censuses, which means that we do *not* observe labor force participation by gender in 1970 and before. Second, information about the number of women centers or the number of women enrolled in the centers per municipality does not exist.

We also use electoral data by municipality to measure political support for the dictatorship. As previously described, historical evidence suggests that military wives devoted efforts to influence the political preferences of women enrolled in the centers. We measure the local political behavior with administrative voting data from the Electoral Service. Given the importance of the 1988 referendum, which democratically determined if the dictator was to remain in power for the next eight years, we gather data on vote shares for the YES and NO options in the ballot. The NO option ultimately won with 55 percent of the vote and the transition to democracy began. Additionally, we measure local political preferences before the dictatorship using the vote shares in the 1970 presidential election. Three candidates competed in 1970, one from the left-wing (Salvador Allende), one from the center (Radomiro Tomic), and one from the right-wing (Jorge Alessandri). We also observe turnout in each of these elections. Importantly, men and women voted in separate booths, which means we can measure political preferences at the local level by gender.

Given the importance of geography, particularly under dictatorship when mobility is severely restricted, we construct a number of spatial covariates. Using the population-weighted centroid of each municipality, we measure the Euclidean distance to the country’s capital (Santiago), to the regional capital, and to the most relevant infrastructure of the time. In particular, we observe the universe of military bases available to the military before the 1973 coup (Bautista et al., 2023a), all hospitals available to the population in the early 1970s (González and Prem, 2023), all churches in the 1960s, and measures of social organizations different from women centers. We also construct an indicator for landlocked municipalities, and the Moran eigenvectors to account for the spatial centrality of units. Finally, we observe inequality in land ownership from the 1965 agricultural census (Cuesta et al., 2015), land reform expropriations during the UP years (González and Vial, 2021), and the number of labor unions per municipality (Gómez and Klein, 1972).

### 3.3 Descriptive statistics

Column 1 in panel A of Table 1 presents population-weighted averages for the main variables that we use in the analysis. One-third of municipalities hosted at least one training building, and the average municipality was located 25 kilometres from the closest training building. Between 1982 and 1992, the labor force participation of women increased five percentage points, from 29 to 34%.<sup>13</sup> Panels B and C describe the municipalities more generally. Three-quarters of the population lived in urban areas before the dictatorship, and political preferences were roughly divided in “three-

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<sup>13</sup>We define female labor force participation as the total number of women working, or seeking to work, over the adult population of women. Work is self-reported and thus includes both formal and informal jobs.

thirds” in 1970, with one-third going to the left-, center-, and right-wing candidates. Also, by 1970 literacy rates reached almost 90 percent (65% over total population), and 25,000 people inhabited the average municipality, half men and half women, and approximately 40% were younger than 18 years old. We observe more than 7,000 (non-CEMA) social organizations across the country, 0.74 every 1,000 inhabitants, and 400 labor unions, 0.05 per 1,000 inhabitants.

Column 2 in Table 1 shows the differences between the 100 municipalities directly exposed to training buildings and those less exposed. The buildings were located in more urban and populated municipalities that were relatively more developed—as measured by education and literacy—which had more women, more social organizations (but less unions), and that were closer to regional capitals. The difference in means revealed by column 2 implies that a naïve comparison of outcomes across municipalities with and without training buildings is hard to interpret. The following section describes a research design offering a valid comparison of municipalities that are similar in a wide variety of characteristics, but differ in terms of exposure to the training programs.

## 4 Research Design

Our goal is to estimate the relationship between proximity to training buildings and outcomes related to indoctrination and empowerment. Unfortunately, simple comparisons of means across municipalities with and without these buildings are unlikely to provide meaningful estimates. The main econometric problem is that omitted variables can be correlated with buildings and the outcomes of interest. Column 2 in panels B and C of Table 1 provides evidence that describes the identification problem: municipalities with and without direct access to the buildings differed systematically *before* the arrival of the dictatorship in 1973. The buildings were more likely to be located in municipalities with higher levels of urbanization, with more population, with more educated individuals, and closer to large cities where the services sector was larger and (non-CEMA) social organizations were more prevalent.<sup>14</sup> All these variables are likely to be important drivers of development trajectories and consequently of trends in female labor force participation.

### 4.1 Econometric strategy

Our strategy relies on comparisons of municipalities after accounting for predetermined differences in observable characteristics, i.e., we rely on a conditional exogeneity assumption. The economic

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<sup>14</sup>Interestingly, the location of buildings is uncorrelated with local electoral results in the 1970 election, suggesting that political factors were not the primary driver behind their location or that they attempted to control everyone.

magnitude of the differences in column 2 of Table 1 suggests that the main driver of the location of buildings under dictatorship was urbanization and proximity to population agglomerations.<sup>15</sup> Therefore, we use five local characteristics to capture the reasons of the dictatorship to choose the location of buildings: (log) population in 1970, the share of women in the 1970 population, the share of the 1970 population living in rural areas, (log) distance to the country’s capital, and (log) distance to the regional capital. In addition, motivated by the inherent political nature behind the authoritarian capture of social organizations, we also include vote shares for the left- (Salvador Allende) and right-wing (Jorge Alessandri) candidates in the 1970 election. Lastly, we provide comparisons of municipalities within the same province with the use of 25 province fixed effects.

We estimate the relationship between the outcomes of interest and geographic exposure to the training buildings using comparisons of nearby municipalities after adjusting for predetermined differences in population size, political preferences, and urbanization using the following equation:

$$Y_{ij} = \beta T_{ij} + \delta x_{ij} + \phi_j + \varepsilon_{ij} \quad (1)$$

where  $Y_{ij}$  is female labor force participation or an indoctrination outcome in municipality  $i$ , located in province  $j$ . The main right-hand side variable is  $T_{ij}$ , which is either an indicator for municipalities with training buildings or the (log) distance to the nearest building.<sup>16</sup> The adjustment in baseline differences is captured by  $x_{ij}$ , a vector with the set of covariates previously described, and by province fixed effects  $\phi_j$ . We allow the error term to be arbitrarily correlated within provinces, but all results are similar in terms of statistical significance if we use spatially correlated errors (Conley, 1999). Our interest is on  $\beta$ , which captures the difference in short- or long-run outcomes as a function of the geographic exposure to the buildings. To account for the different size of municipalities and give equal importance to individual decisions, we estimate equation (1) by weighted least squares using the corresponding 1970 population (e.g. by gender and age) as weights.

To support our strategy, column 3 in panel C of Table 1 shows that, after accounting for the simple set of predetermined differences and province fixed effects, municipalities with and without buildings are similar across a wide range of important drivers of female labor force participation. The exposure to buildings is now uncorrelated with previous labor force participation, marriage rates, educational attainment, and exposure to other organizations. Column 5 in the same table

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<sup>15</sup>CEMA seems to have worked similarly in urban and rural areas. If anything, the existing evidence suggests that the rural side of the organization was more important for the local population (Oxman, 1983). Moreover, priority seems to have been given to branches outside of the city capital (Valdés and Weinstein, 1993, p. 109).

<sup>16</sup>To calculate the distances between municipalities and buildings, we use the geographic centroid of municipalities and the centroid of the corresponding municipalities where the buildings were located.

repeats the implementation of these adjusted comparisons, but now with the (log) distance to the nearest building, and we again observe balance in observables. Thus Table 1 suggests that these adjusted comparisons can be used in a meaningful way. In that sense, we interpret this conditional balance in observables as empirical evidence supporting the validity of our identification strategy.

## 4.2 Identification assumption and threats

To interpret  $\beta$  in equation (1) as the effect of training buildings, we need to assume the absence of omitted variables correlated with the geographic exposure to buildings and the outcomes of interest. Even though we have shown balance in a wide variety of observables, we cannot test for all possible differences. Therefore, this is ultimately an identification assumption that we support with a variety of empirical exercises assessing potential threats. Similarly important is the interpretation of causality in our context. Given that we observe exposure to the buildings at an aggregated level (municipality), and we lack enrollment data, our estimate should be interpreted as an intention-to-treat (ITT). Moreover, buildings can have a direct effect on enrolled women and indirect effects on nearby people exposed to enrolled women. The estimate  $\beta$  is a combination of both effects.

We tackle three potential threats that could affect the interpretation of results with our analysis. The first threat is related to fixed unobservable differences across municipalities that drive both the location of buildings and the outcomes of interest. To assess this possibility, we use a difference-in-differences design that exploits the rise of programs between 1982 and 1992. The second threat is related to the extrapolation of linear relationships between controls and outcomes. By controlling for covariates, we rely on functional form assumptions that are fairly easy to relax using matching methods. In addition to showing estimates using all 330 municipalities, we provide estimates in a sub-sample of municipalities that are observationally similar in terms of 1970 labor force participation. To construct this sub-sample, we use a propensity score matching algorithm that pairs each of the 100 municipalities hosting a building with the nearest municipality of the remaining 230 (with replacement). The algorithm delivers a sample of 170 municipalities, 100 with and 70 without buildings. Reassuringly, columns 4 and 6 in panel C of Table 1 show that municipalities in this matching sample are similar in a wide variety of relevant predetermined characteristics. The third set of threats is the various dictatorial actions that could be correlated with buildings and development trajectories. We assess a number of these actions by showing the robustness of results to the presence of the state and the exposure to other relevant policies.



## 5 Empowerment or Indoctrination?

This section presents our estimates of the impact of women centers on female labor force participation, voting patterns by gender, and religiosity at the local level. The first outcome is related to female empowerment, and the latter two to the indoctrination taking place in centers. We observe all outcomes in the 1992 census, two years after the country's transition to democracy.

### 5.1 Female labor force participation

Table 2 presents estimates of equation (1) using labor force participation of 18-60 year old women as the dependent variable. These women were directly exposed to the training programs and were old enough to be able to join the labor force. We find that municipalities geographically more exposed to the training buildings are positively associated with higher female labor force participation in 1992 (columns 5-6). Importantly, we do *not* observe this empirical relationship among men, who barely participated in centers, and the point estimate is very close to zero (columns 3-4 and 7-8).<sup>17</sup> Both of these relationships are weaker and indistinguishable from zero in 1982, before the rise of training programs (columns 1-4). The results are similar when using all municipalities (panel A) or the matching sample (panel B). Overall, municipalities with training buildings exhibit 2 percentage points (pp) higher female labor force participation in 1992 (column 5), equivalent to 40% of the 5 pp increase in women's participation in the previous decade. Similarly, moving from the 10<sup>th</sup> to the 90<sup>th</sup> percentile in the distribution of distance to the closest building (0 to 70 kilometres), is associated with 2 pp lower female labor force participation.<sup>18</sup>

Even though our analysis accounts for a wide range of local characteristics, we still worry about omitted variables that could be correlated with the location of buildings and *female* labor force participation. We are less worried about unobservable variables driving labor force participation more generally, as we show that local *male* participation is uncorrelated with buildings. There is also less of a concern regarding omitted variables driving the location of buildings and labor market outcomes because we do not observe a relationship between these variables in 1982, when the rise of training programs had yet to come but some buildings were still under authoritarian control. Yet

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<sup>17</sup>These estimates are consistent with the fact that the programs were exclusive for women and men were barely trained. For example, less than 100 men were trained in 1986 and 271 in 1987 (Valdés and Weinstein, 1993, p. 95).

<sup>18</sup>Figure A.2 shows that the point estimate seems to be similar across age groups, with perhaps a slightly larger point estimate for younger cohorts. However, we lack statistical power to distinguish these cohort effects. Figure A.3 also shows that estimates are not driven by any specific province (panel A) or municipality (panel B). Table A.1 shows that most of the effect is explained by women with a partner who also participates in the labor market.

the Pinochet dictatorship might have implemented other programs that threaten our interpretation. To alleviate concerns about these omitted variables, and thus support a causal effect of training buildings on female labor force participation, we present three interrelated empirical exercises.

First, state presence and other institutions are unlikely to be affecting our analysis. Columns 1-8 in Table A.2 show that results remain unchanged after controlling for churches, social organizations, military bases, or hospitals. Moreover, columns 9-14 show that the results are robust after controlling for the remoteness of municipalities using proximity to ports and airports, and by industry composition using the share of workers in the services sector. Second, the results are similar when we account for the geographic interdependence of municipalities and replace some admittedly arbitrary specification decisions. Columns 1-2 in Table A.3 show similar estimates when we drop the use of weights from the estimation. Columns 3-8 control for spatial correlation with the inclusion of latitude and longitude, log average distance to all other municipalities, and Moran eigenvectors. Reassuringly, the results remain unchanged. Columns 9-10 show that results are unchanged when the controls are chosen by an algorithm using their predictive power of female labor force participation and the presence of buildings as inclusion criteria (Belloni et al., 2014). Lastly, columns 11-12 in Table A.3 show that alternative matching methods that select the sample of municipalities using a statistical rule deliver the same results (Crump et al., 2009).

Third, Table 3 shows similar results when exploiting the rise of training programs between 1982 and 1992 in a difference-in-differences framework. More precisely, we examine the change in female labor force participation across municipalities differentially exposed to the training buildings between 1982 and 1992. Unfortunately, there is no data to measure labor market participation by municipality and gender before these years. This approach allows us to exploit variation within-municipality over time by using municipality and year fixed effects. Columns 1-2 show estimates for women and columns 3-4 for men using this design. We observe a similar effect of exposure to the training buildings on labor force participation of women, and the same null effect on men. Similarly, we can also use triple differences exploiting the availability of comparisons across gender, geographic exposure to buildings, and years. Reassuringly, we again find that exposure to training buildings increase female labor force participation by 1-2 percentage points (columns 5-6).

The higher female labor force participation in 1992 is explained by occupations related to activities that took place in the training buildings and less related to the specific skills taught the programs. Table 4 presents estimates of equation (1) using the share of women in selected occupations as dependent variables. We focus on all adult women, regardless of their employment status as occupation is still reported. Columns 1-4 examine occupations related to the skills promoted

by the training programs. The three most important jobs account for 98% of these occupations: cooking, clothing (sewing and weaving), and hairdressing. We observe a small 0.1 pp increase in participation in these categories, but the estimate is statistically indistinguishable from zero. In contrast, we observe a statistically significant effect of 1.5 pp in occupations related to the programs but not necessarily linked to the skills promoted by the training. The three most important jobs account for 71% of occupations in these categories: secretaries, maids, and saleswomen. The training incentivized women to become salespeople, and to a lesser extent, maids. The former jobs include food and non-food sellers, packers, and cashiers. Overall, the analysis of occupations in 1992 suggests that the training programs increased labor force participation because of information about jobs and experience, and the acquisition of specific skills had likely a relatively minor role.

## **5.2 Political support for the dictatorship and religiosity**

Training programs appear to have been ineffective to increase political support for the dictatorship and religiosity, as reflected by gender-specific voting patterns and self-reported religiosity in the census. We measure the former as vote shares by municipality and gender in the 1988 referendum. The referendum offered two options, one supporting the continuation of Augusto Pinochet as president (YES option) and one supporting a transition to democracy with a new election to choose the president of the country (NO option). Although Pinochet expected to win the election, he lost with 45% of the vote (Spooner, 1999). Crucially, men and women voted in separate booths, which allows to cleanly measure political preferences by gender. The dictatorship attempted to use female social organizations to build support for the referendum, but many members opposed and organizations began to dissolve due to fears of retaliation (Valdés and Weinstein, 1993, p. 127).

The estimates in columns 1-4 of Table 5 show that the proximity to training buildings is unrelated to vote shares by gender in the 1988 referendum. The point estimates in column 1 (panel B) allows us to reject that buildings increased the vote share of Augusto Pinochet (YES option) by more than 2 pp, which is less than 4% of the average vote share in the referendum. The null effect in column 2 has a similar interpretation and again exhibits a tight confidence interval around zero. Columns 3-4 show that voting patterns in male booths are also unrelated to women centers. The similarity of the empirical relationship of interest across male and female booths additionally suggests the lack of a political effect. Overall, there is little evidence supporting the programs as effective to build electoral support for the dictatorship. Moreover, given that we know political talks were given to members of the organization (Valdés and Weinstein, 1993, p. 95), these results are consistent with either political persuasion being ineffective or with the self-selection of

dictatorship supporters into the female social organizations that we study.

We find similar null effects when examining the relationship between training buildings and the share of self-reported Catholics. We measure local religiosity with a census question in which people self-declared their religion.<sup>19</sup> Conservative Catholics and Evangelicals were an important base of support for the dictatorship (Boas, 2016), and religion could have been part of female organizations, although there is limited evidence of it.<sup>20</sup> We find that the empirical relation between training buildings and religiosity is similarly non-existent across both men and women. Columns 5-8 in Table 5 present these results. We can reject that buildings increased the share of Catholics in a municipality by more than 2.8 pp, which is less than 4% of the average share of Catholics locally. The point estimate is similar across gender, and the signs reverse when we focus on the matching sample. We conclude that training programs are unlikely to have affected local religiosity.

### 5.3 Marriage, fertility, and education

Previous research has shown that training programs and information can change marriage, fertility, and education decisions (e.g., Bandiera et al. 2020). Those studies usually examine the behavior of young and unmarried women. In contrast, we study training programs that targeted relatively older women. The eligibility requirements were precisely based on marriage and fertility, as anyone who was either a mother, was married, or was at least 18 years old could join. Although married teenagers and teenager mothers met the requirements and could join, the vast majority of members were adult married women with children at home. Therefore, it is unlikely that the training programs affected marriage, fertility, and higher education decisions. However, these decisions might be more malleable once we focus in the youngest population exposed to the programs.

We find little evidence that the training programs affected marriage, fertility, and education decisions. Table 6 presents the evidence. The results are similar when using all municipalities (panel A) and the matching sample (panel B). Columns 1-2 show that the training buildings are statistically unrelated to marriage decisions. Given that more than 70 percent of the 18-60 year old women in our data were married in 1992, the point estimates are small in terms of magnitude. In fact, we can reject that buildings decreased marriage rates by less than 1.3 percentage points or less than 2% of the sample average. Columns 3-4 show that fertility decisions were also unaffected.

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<sup>19</sup>We examine the responses of 18-60 year old people to the question “What religion do you profess?” The options were Catholic, Evangelical, and atheist. Table A.4 shows that none of these answers are affected by the buildings.

<sup>20</sup>The relationship between the Catholic Church and the dictatorship was far from simple. The mainstream Catholic Church opposed the regime but powerful Catholic organizations (e.g., Opus Dei) supported it (Esberg, 2020). Lucía Hiriart liked to be perceived as a devoted Catholic and a strong supporter of marriage (Matus, 2013, p. 221).

Similar to the case of marriage patterns, we can reject fertility effects smaller than 0.1 in absolute terms, which in this case corresponds to less than 5% of the sample mean of 2.2 children per women. These estimates are consistent with most trained women being older married mothers. Columns 5-6 study the share of women who enrolled in college for at least one year. The results again indicate little relation between higher education and the training buildings, and we can reject increases larger than 2.2 percentage points from a base of 8.2%.<sup>21</sup>

The null results in panels A and B of Table 6 could be hiding important heterogeneity by cohort. Marriage, fertility, and higher education decisions are mostly made in the 20s and 30s. Are the results similar among the youngest cohorts exposed to the training programs? To check for the impact of centers among young women, we restrict attention to 28-40 year old women in 1992. These women were relatively young when enrolled in the organization and thus more likely to change their marriage, fertility, and higher education decisions as a consequence. Panel C in Table 6 repeats the estimation in this sub-sample of women and, if anything, we find smaller and more imprecise point estimates. Overall, the evidence in this table suggests that marriage, fertility, and higher education decisions are unlikely to have been affected by the training programs.

## **6 The Persistent Impact of Female Training Programs**

This section shows that exposure to training buildings under dictatorship had a persistent effect in female labor force participation. We also provide relatively more exploratory evidence suggesting that the higher female labor force participation was transmitted to the following generation. We investigate this intergenerational transmission in 2017 by studying the labor market decisions of 25-40 year old people with a mother exposed to the training programs under dictatorship.

### **6.1 Labor force participation**

Despite the short-run positive impact of training buildings on female labor force participation, and the null effect on men, the long-run effects are far from being obvious. On the one hand, one might expect these effects to persist over time with a similar or larger magnitude. That could be the case if the training programs gave women skills that depreciated slowly and on-the-job experi-

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<sup>21</sup>Divorce rates and years of college also seem unaffected by the programs. Table A.5 presents results. Given the absence of legal divorce in 1992, we define “divorce” as either a separation or annulled marriage. The latter was a legal alternative to end a marriage before the divorce law was enacted in 2004 (Cox, 2011). Dictatorship supporters were conservative and opposed divorce because they consider it an “attack against the family” (Power, 2002, p. 280).

ence increased the returns to stay in the labor market. In addition, initial effects might have had a positive externality on other women, creating a larger long-run effect of the training. On the other hand, the impact of training buildings could vanish over time if the depreciation effects dominates or if women trained by the programs eventually displace other women. Moreover, closer to the retirement age, some women might decide to leave the workforce if they saved sufficiently for retirement, while others might decide to stay in the workforce to exploit their skills and maximize their savings. The long-run effect on the participation of men is also unclear, as their response crucially depends on general equilibrium effects in the local economy and the elasticity of substitution across men and women. The magnitude of long-run impacts is ultimately an empirical question.

We find that the long-run impact of training buildings on female labor force participation is similar to the short-run impact. Given our interest in women directly exposed to the programs and fully able to work, we restrict attention to 30-60 year old women in 2002 and 47-60 year old women in 2017. The retirement age for women (men) is 60 (65) and participation falls sharply after (Figure A.4). Panel A in Table 7 presents the labor market results.<sup>22</sup> Buildings are associated with 2.2 pp higher female participation in 2002 and a smaller 1.6 pp in the 2017 census, similar magnitudes to the 1.9 pp in the 1992 census. The patterns are similar when measuring exposure to the programs with distance to the closest building. Panel B in the same table focuses on 50-70 year old people to study retirement decisions. Younger individuals are unlikely to retire and older ones are almost surely out of the labor force. The estimates reveal that by 2017 the exposure to dictatorial training delayed the retirement decision by approximately 1 pp from a base of 16%.

Beyond the impact on women, Table 7 also shows that the emergence of an impact of training programs on men. In municipalities with training buildings under dictatorship, the estimates reveal that men have 1.3-1.6 pp higher labor force participation, an effect that is half the size of the one for women when compared to their respective averages. There are several potential economic explanations for these findings. For example, we could rationalize these spillover effects with labor market complementarities across men and women. Evidence on this matter is scarce and likely to be context-specific. Another possibility is an increase in local economic activity which fostered a demand for labor and pushed men into the labor force relatively more than women. Unfortunately, we are unable to distinguish between these alternative mechanisms.

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<sup>22</sup>For simplicity and brevity, we discuss estimation results using all municipalities in this section. All estimates are similar using the matching sample. For completeness, Table A.6 in the Appendix presents the matching results.

## 6.2 Intergenerational transmission

Parents and peers in local communities have a strong influence in the formation of preferences and beliefs (Bisin and Verdier, 2023). Growing up with working mothers in the household, or being exposed to them in nearby households, can thus have an impact on the beliefs of people about the role that women should have in society in general and in the labor market in particular, as evidence from the US, the UK, and Mexico shows (Farré and Vella, 2013; Johnston et al., 2014; Campos-Vazquez and Velez-Grajales, 2014). It is also plausible that working mothers have more resources to invest on their children, which also likely leads to different education and labor trajectories. We test for the existence of this type of intergenerational transmission using the 2017 census and leveraging variation in maternal exposure to training programs in the 1982-1990 period.

Operationally, we follow Bautista et al. (2023b) and focus on 25-40 year old individuals whom we observe in co-habitation with their mothers in the 2017 census. This restriction maximizes the chances of studying individuals who already made their education decisions and of being paired with a mother. We additionally restrict the sample to individuals with a prime working-age mother in the 1982-1990 years. Overall, we observe 300,000 individuals who meet this criteria.<sup>23</sup> We use this sample of individuals to estimate the following cross-sectional regression by gender:

$$Y_{ijk} = \beta T_j + \sum_a \gamma_a x_i^a + \phi_k + \eta_{ijk} \quad (2)$$

where  $Y_{ijk}$  is the labor force participation of individual  $i$ , with mother born in municipality  $j$ , and living in province  $k$  in 2017. The main right-hand side variable of interest is  $T_j$ , our measure of exposure to training programs under dictatorship. The vector  $x_i^a$  includes age fixed effects for children and mothers, and  $\phi_k$  are fixed effects by province. The error term  $\eta_{ijk}$  is clustered by the mother's place of birth. The coefficient of interest is  $\beta$  and measures the differential labor force participation of people whose mother was relatively more exposed to the programs in the 1982-1990 period. Econometric identification of  $\beta$  relies of comparisons of individuals of the same age, and whose mothers are the same age but were born in different municipalities.

Women with a mother more exposed to the programs have 1 pp higher female labor force participation from an average of 77%. Column 1 in Table 8 presents estimates of equation (2) for women and column 2 for men. The pattern for men is smaller and has the opposite sign, 0.5 pp

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<sup>23</sup>Table A.7 shows descriptive statistics for the universe of 25-40 year old people in the country with the subsequent sample restrictions to perform the analysis. Overall, individuals in our sample are more likely to be studying, unemployed, and live in smaller households, but are similar in terms of educational attainment and labor force participation.

from an average of 87%. Column 3 shows that women are 1.6 pp more likely to be in the labor force when leveraging a double differences across gender and exposure to centers, in which case all fixed effects are included by gender. Column 4 augments the model in the previous column to present results from a saturated econometric specification with fixed effects by municipality of *residence* and municipality of *mother's birth*, and estimates are again similar. The latter specification effectively accounts for local social interactions by municipality of residence. Column 5 uses the sub-sample of households with multiple children in which there is at least one man and one woman to include household fixed effects. We again find that women with mothers more exposed to the training programs are more likely to participate in the labor market.<sup>24</sup> Overall, the results support the intergenerational transmission of female labor force participation from mothers to daughters.

The results in Table 8 raise two questions. First, what is the mechanism explaining the intergenerational transmission of female labor force participation? The estimates are consistent with within-household transmission of beliefs about gender norms in the labor market. Alternatively, the training could have generated income effects on the following generation, as mothers likely benefited economically from the training programs. Table A.10 shows that daughters of mothers exposed to the programs are indeed more likely to enroll in higher education (columns 1 and 3), but the effect is similar across daughters and sons (columns 2 and 4). Women also do not appear to have made significantly different fertility choices (column 5). Therefore, our preferred interpretation is that of more progressive norms about the role of women in the labor market. Second, why do we observe a negative coefficient on the labor force participation of men who had a mother exposed to the programs? Although the estimate is small in economic magnitude, our interpretation is that in households more exposed to the training there is convergence in gender norms in the labor market: a more egalitarian distribution of household chores implies daughters working more and sons working less. An example is a more equal distribution of adult care-giving within the household, which currently exhibits large gender differences (Brito and Contreras, 2023).

## 7 Conclusion

By studying training programs for women enrolled in female social organizations during the Pinochet dictatorship, we have shown that autocrats can have a hard time spreading their ideology and their actions might have unintended consequences. Our empirical examination of exposure to

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<sup>24</sup>These estimates are similar if we add additional observations from women who are not the mother but were also exposed to the training programs and live in the household (e.g., grandmothers or aunts, see Table A.8). However, most of the effect is explained by mothers and daughters and not other within-household relationships (Table A.9).



female training programs that aimed to promote conservative gender roles reveals that repeated social interactions among neighbors and exposure to labor market activities can incentivize women to join the labor market. The higher female labor force participation stands in stark contrast to the goal of the regime which aimed to promote the role of women as mothers and housewives. The self-selection of women into the organization likely limited the reach and effectiveness of the dictatorship to indoctrinate the population, at least directly through activities with these women. The organization was powerful to promote female work, as evidenced by the long-run effects on directly exposed cohorts and the intergenerational transmission from mothers to daughters.

Despite the many ideal features of the context to study the authoritarian control of social organizations and the dissemination of conservative ideology, our study still has limitations that are worth mentioning. First, we use a relatively coarse measure of exposure to the training programs under dictatorship, which prevents us from precisely capturing individual-level effects and the potentially wide reach of the organization. The lack of data to measure the thousands of local organizations across the country, and the list of women enrolled, limits quantitative progress to measure other activities conducted by the female organization we study. Second, we are only able to capture the aggregate impact of exposure to the training programs, without clearly identifying which are the most important mechanisms that can explain the higher female labor force participation. The importance of training could be rooted in female interactions with work-related activities, social interactions among women in the programs, information diffusion about job opportunities, or because of the generation of skills that are useful for work, among others.

Our work also opens many questions for future research. Social organizations can be dismantled, monitored, controlled, or completely reformulated under an authoritarian leader. The organization we study was controlled and enhanced in the activities aligned with the autocrat's ideology. Yet other social organizations were completely dismantled, and other new ones were created to accomplish related or different goals. How do dictators decide what to do with existing social organizations? What type of organizations do they promote under their mandate? The answers to these questions are key to learning about the strength and fragility of authoritarian regimes.

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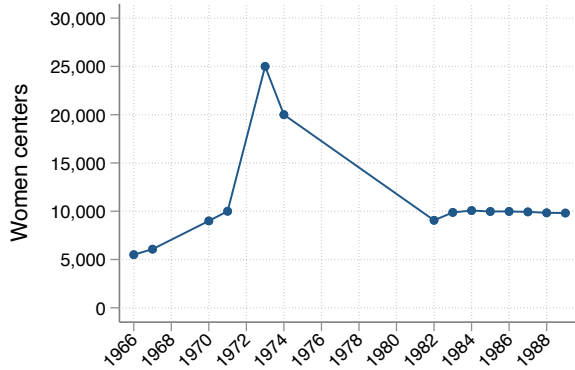
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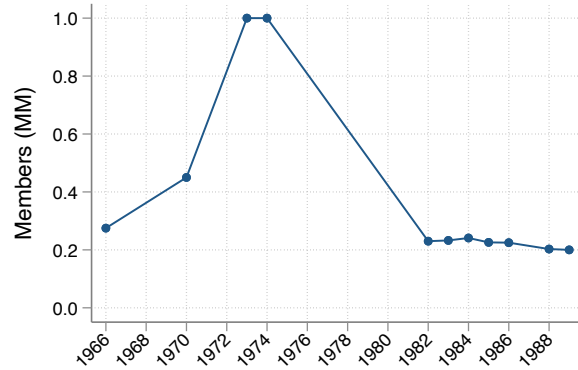
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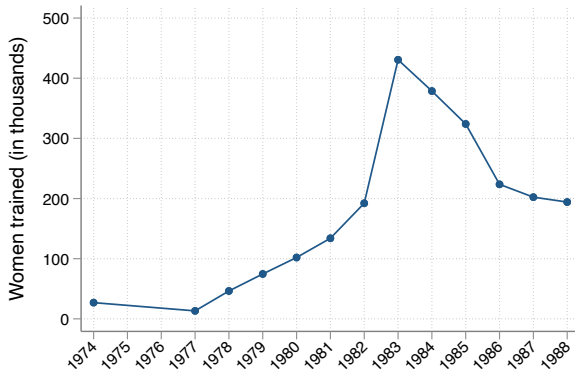
**Figure 1: Women centers, members, and training**



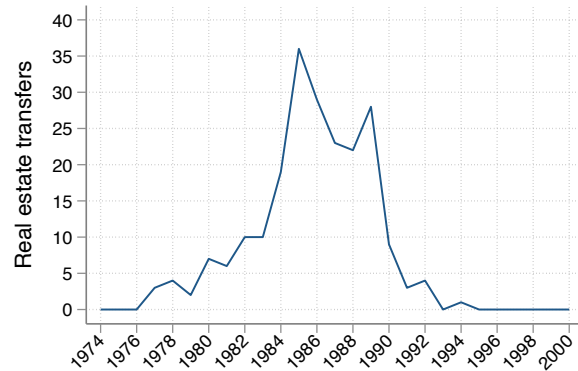
(a) Women centers



(b) Members at women centers



(c) Training



(d) Real estate transfers

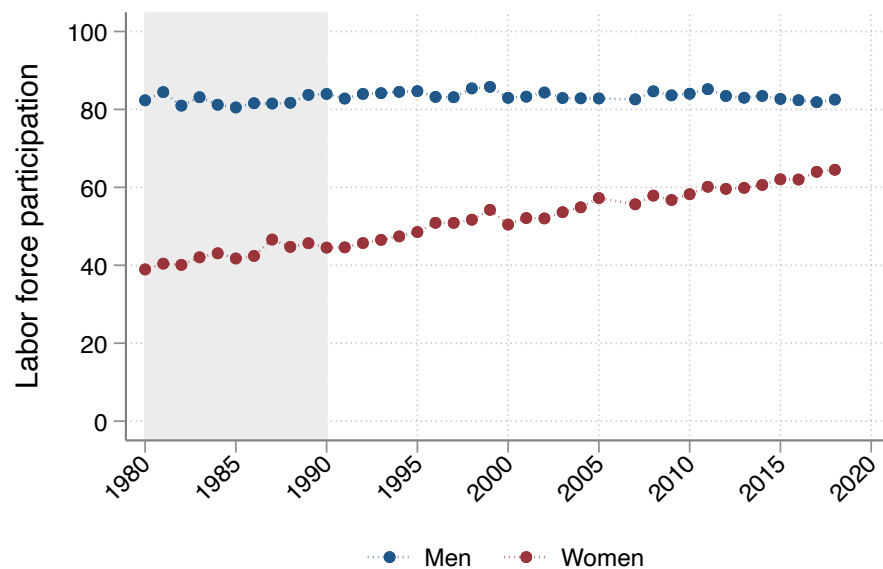
Notes: Panel (a) shows the estimated number of women centers operating by year (when available). Panel (b) plots the number of women enrolled in centers by year (when available). Panel (c) shows the number of women trained in the training programs delivered under the Pinochet dictatorship. Panel (d) shows the number of real estate transfers from the dictatorship to the female social organization that we study (CEMA). Source: Valdés et al. (1989).



**Figure 2: Labor force participation by gender**



(a) Historical national statistics, 1930-2010



(b) Survey data for the capital, 1980-2020

Notes: These figures show the evolution of female and male labor force participation over time. Panel (a) shows participation rates by gender using historical statistics constructed by Díaz et al. (2016) for the period 1930-2010. Panel (b) displays similar trends using survey data for the capital city (from *Encuesta de Ocupación y Desocupación en el Gran Santiago* or EOD) for the period 1980-2020.

**Table 1:** Descriptive statistics and pre-dictatorship observable differences across municipalities with and without training buildings

	Differences by exposure to training buildings					
	Avg.	Indicator			Distance	
		Simple	Conditional	Matching	Conditional	Matching
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A – Main variables</b>						
Indicator for training building	0.30 (0.46)					
Distance to closest building (in km)	24.47 (30.85)					
Female labor force participation in 1992	33.86 (10.59)					
<b>Panel B – Baseline controls</b>						
Log population in 1970	10.84 (0.97)	0.82*** (0.16)				
Share of women in population in 1970	0.51 (0.03)	0.01** (0.00)				
Share of rural population in 1970	0.22 (0.27)	-0.19*** (0.04)				
Log distance to capital	4.30 (2.06)	0.35 (0.40)				
Log distance to regional capital	2.62 (1.61)	-0.80*** (0.28)				
Vote share right-wing in 1970	34.31 (8.45)	0.65 (1.64)				
Vote share left-wing in 1970	37.17 (10.10)	0.20 (1.72)				
<b>Panel C – Other characteristics</b>						
Labor force participation in 1970	29.85 (3.33)	0.88 (0.65)	0.50 (0.55)	-0.31 (0.79)	-0.03 (0.15)	0.24 (0.19)
Share of married women in 1970	0.54 (0.06)	-0.02** (0.01)	-0.00 (0.01)	0.01 (0.01)	0.00 (0.00)	-0.00 (0.00)
Share of children in the population in 1970	0.40 (0.05)	-0.03** (0.01)	-0.01 (0.01)	0.01 (0.01)	0.00 (0.00)	-0.00 (0.00)
Literacy rate in 1970	0.65 (0.12)	0.03 (0.02)	-0.02 (0.02)	-0.02 (0.02)	0.01 (0.01)	0.01 (0.01)
Share of population with 8+ years of education	0.18 (0.11)	0.07*** (0.02)	0.01 (0.01)	0.00 (0.01)	-0.00 (0.00)	0.00 (0.00)
Social organizations per capita in 1970	0.74 (1.37)	0.48** (0.20)	0.24 (0.20)	-0.03 (0.34)	-0.07 (0.06)	0.03 (0.09)
Unions per capita in 1970	0.05 (0.09)	-0.05*** (0.01)	-0.00 (0.01)	-0.00 (0.01)	0.00 (0.00)	0.00 (0.00)
Churches per capita in 1970	0.07 (0.06)	-0.01* (0.01)	0.00 (0.01)	-0.00 (0.01)	0.00 (0.00)	0.00 (0.00)
Share of workers in services in 1982	60.92 (9.13)	7.56*** (1.48)	1.06* (0.62)	1.21 (0.80)	-0.28 (0.18)	-0.38 (0.25)
Baseline controls and province fixed effects	–	N	Y	Y	Y	Y
Municipalities	334	334	334	171	334	171

Notes: This table presents the characteristics of municipalities. Column 1 presents the average for all 334 municipalities in our dataset. Column 2 presents the difference among the 100 municipalities that hosted at least one building used by the Pinochet dictatorship to train women. Column 3 presents the same difference than column 2 but includes covariates in Panel B as controls. Columns 4 and 6 present differences for the sub-sample of municipalities that are similar as measured by a propensity score matching algorithm that pairs each of the 100 municipalities hosting a center with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Municipality population in 1970 used as analytical weight. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 2: Training buildings and labor force participation by gender**

	Dependent variable: Labor force participation							
	1982 Census <i>(before rise of training programs)</i>				1992 Census <i>(after rise of training programs)</i>			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A – All</b>								
Indicator training building	0.48 (0.85) [0.32]		0.03 (0.84) [0.98]		1.85** (0.80) [<0.01]		-0.01 (0.44) [0.67]	
Log distance to closest building		0.10 (0.22) [0.58]		-0.09 (0.25) [0.73]		-0.64*** (0.23) [<0.01]		-0.14 (0.14) [0.78]
<b>Panel B – Matching sample</b>								
Indicator training building	0.39 (1.02) [0.29]		0.01 (0.90) [0.88]		2.30*** (0.79) [<0.01]		0.34 (0.57) [0.79]	
Log distance to closest building		0.04 (0.26) [0.82]		-0.10 (0.28) [0.80]		-0.59** (0.25) [0.04]		-0.13 (0.17) [0.96]
Observations (panel A)	322	322	322	322	334	334	334	334
Observations (panel B)	167	167	167	167	171	171	171	171
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	28.86	28.86	85.39	85.39	33.86	33.86	82.65	82.65
Mean dep. variable (panel B)	29.63	29.63	85.05	85.05	35.14	35.14	82.49	82.49
p-value province (panel A)	0.55	0.72	0.97	0.76	<0.01	<0.01	0.98	0.42
p-value province (panel B)	0.57	0.88	0.99	0.77	<0.01	0.07	0.50	0.49

Notes: Dependent variable is the female and male labor force participation based on the 1982 and 1992 Census. Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a building with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. In square brackets, we present p-values that account for spatial correlation following Conley (1999) using a distance of 200km. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 3:** Difference-in-differences estimates

	Dependent variable: Labor force participation					
	Female		Male		All	
	(1)	(2)	(3)	(4)	(5)	(6)
Log distance to closest building $\times$ Year 1992	-0.63*** (0.16)		-0.15 (0.12)		-0.15 (0.12)	
Indicator training building $\times$ Year 1992		1.34*** (0.46)		-0.00 (0.42)		-0.00 (0.42)
Log distance to closest building $\times$ Year 1992 $\times$ Female					-0.48** (0.21)	
Indicator training building $\times$ Year 1992 $\times$ Female						1.34** (0.58)
Observations	644	644	644	644	1,288	1,288
Municipalities	322	322	322	322	322	322
Municipality fixed effects	Y	Y	Y	Y	N	N
Municipality-by-gender fixed effects	N	N	N	N	Y	Y
Year fixed effects	Y	Y	Y	Y	N	N
Year-by-gender fixed effects	N	N	N	N	Y	Y
Controls	Y	Y	Y	Y	N	N
Controls-by-gender	N	N	N	N	Y	Y
Mean dep. variable	31.60	31.60	83.95	83.95	57.11	57.11

Notes: This table presents the impact of training buildings on labor force participation using a difference-in-differences estimation. The sample includes individuals between 18 and 60 years old from the 1982 and 1992 Census. The dependent variable is labor force participation. *Year 1992* is a dummy that takes the value one for observations from the 1992 Census. Columns 1-4 stack use a municipality-year as the unit of observation while columns 5-6 use municipality-gender-year. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Robust standard errors clustered at the municipality level in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 4:** Employment in occupations related to the training programs

	Dependent variable: Share of adult women in 1992 working in...							
	Occupations requiring skills promoted by the training programs at centers				Other occupations indirectly related to activities at women centers			
	All relevant occupations	Cooking	Clothing	Hairdressers	All relevant occupations	Secretary	Maid	Sales
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A</b>								
Indicator training building	0.11 (0.17)	0.11 (0.07)	-0.02 (0.13)	0.02 (0.03)	1.51*** (0.51)	-0.06 (0.28)	0.27** (0.13)	0.42** (0.18)
<b>Panel B</b>								
Distance to closest building	-0.04 (0.05)	-0.02 (0.02)	-0.01 (0.04)	-0.01 (0.01)	-0.51*** (0.15)	0.02 (0.07)	-0.10** (0.04)	-0.17*** (0.06)
Observations	334	334	334	334	334	334	334	334
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable	3.11	1.38	1.26	0.44	16.25	3.51	3.37	4.66

Notes: Dependent variable is the share of adult women in 1992 working in different occupations. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 5: Political support for the dictatorship and religiosity**

	Vote share NO				Religiosity			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A – All</b>								
Indicator training building	-0.63		-0.49		0.94		0.71	
	(0.90)		(1.00)		(0.92)		(0.90)	
Log distance to closest building		-0.01		-0.15		-0.46		-0.41
		(0.27)		(0.28)		(0.29)		(0.28)
<b>Panel B – Matching sample</b>								
Indicator training building	-0.11		0.19		-0.61		-0.74	
	(0.88)		(1.09)		(1.31)		(1.23)	
Log distance to closest building		-0.16		-0.29		0.08		0.12
		(0.27)		(0.31)		(0.35)		(0.32)
Observations (panel A )	330	330	330	330	334	334	334	334
Observations (panel B)	171	171	171	171	171	171	171	171
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	52.64	52.64	60.07	60.07	77.52	77.52	76.11	76.11
Mean dep. variable (panel B)	53.20	53.20	60.66	60.66	78.79	78.79	77.16	77.16

Notes: This table presents the impact of training building on voting patters and religiosity. The dependent variable in columns 1 and 2 (3 and 4) is the vote share of female (male) that voted No in the 1988 Plebiscite, while in columns 5 to 8 is the share of individuals that reported not be atheist. Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a building with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$

**Table 6: Marriage, fertility, and higher education**

	Dependent variable measured in the 1992 census					
	Share women who are married		Avg. number of children		Share women with college education	
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A – All</b>						
Indicator training building	-0.20 (0.54)		-0.04 (0.04)		0.50 (0.89)	
Log distance to closest building		0.06 (0.16)		0.02** (0.01)		-0.15 (0.24)
<b>Panel B – Matching sample</b>						
Indicator training building	0.52 (0.67)		-0.05 (0.05)		1.05 (0.81)	
Log distance to closest building		-0.23 (0.17)		0.02 (0.01)		-0.19 (0.25)
<b>Panel C – Young women</b>						
Indicator training building	0.39 (0.91)		-0.01 (0.04)		0.26 (1.01)	
Log distance to closest building		-0.15 (0.25)		0.01 (0.01)		-0.03 (0.27)
Observations (panel A and C)	334	334	334	334	334	334
Observations (panel B)	171	171	171	171	171	171
Province fixed effects	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	71.2	71.2	2.2	2.2	8.2	8.2
Mean dep. variable (panel B)	71.0	71.0	2.2	2.2	8.7	8.7
Mean dep. variable (panel C)	80.1	80.1	2.2	2.2	9.0	9.0

Notes: Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a building with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Panel C presents the results for the full sample but restricting the sample to individuals between 28 and 40 years old. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 7: The persistent effect of female training programs**

	2002 Census				2017 Census			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A – Labor force</b>								
Indicator training building	2.35**		1.77***		1.68**		1.30***	
	(0.93)		(0.46)		(0.73)		(0.30)	
Log distance to closest building		-0.77***		-0.74***		-0.55**		-0.49***
		(0.26)		(0.15)		(0.22)		(0.09)
<b>Panel B – Retirement</b>								
Indicator training building	-0.42		-1.16*		-0.93***		-1.27***	
	(0.35)		(0.62)		(0.34)		(0.31)	
Log distance to closest building		0.11		0.23		0.23**		0.31***
		(0.10)		(0.19)		(0.10)		(0.10)
Observations	334	334	334	334	334	334	334	334
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Mean dep. variable (panel A)	43.40	43.40	87.78	87.78	57.62	57.62	91.11	91.11
Mean dep. variable (panel B)	11.79	11.79	22.09	22.09	15.57	15.57	13.57	13.57

Notes: Dependent variable in Panel A is the female and male labor force participation based on the 2002 Census for individuals between 30 and 60 years old (columns 1 to 4) and on the 2017 Census for individuals between 47 and 60 years old (columns 5 to 8). Dependent variable in Panel B is the share of retired individuals between 50 and 70 years old. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$



**Table 8:** Intergenerational effects of female training programs

Dependent variable: Indicator labor force participation					
	Female	Male	All	All	All
<b>Panel A</b>	(1)	(2)	(3)	(4)	(5)
Indicator training building × Female			1.55*** (0.44)	1.58*** (0.44)	2.94*** (0.87)
Indicator training building	1.02*** (0.35)	-0.54* (0.28)	-0.54* (0.28)		
<b>Panel B</b>					
Distance to closest building × Female			-0.49*** (0.10)	-0.52*** (0.10)	-0.96*** (0.22)
Distance to closest building	-0.34*** (0.09)	0.15** (0.07)	0.15** (0.07)		
Observations	134,463	152,002	286,465	286,464	92,277
Province fixed effects	Y	Y	Y	Y	Y
Municipality fixed effects	N	N	N	Y	N
Age of child fixed effects	Y	Y	Y	Y	Y
Age of mother fixed effects	Y	Y	Y	Y	Y
Household fixed effects	N	N	N	N	Y
Mean dep. variable	77.07	86.89	82.28	82.28	82.58

Notes: The sample includes individuals in the 2017 Census between 25 and 40 years old that live with their mother and their mother is the head of the household. In columns 3 to 5, province, age of child, and age of mother fixed effects are all interacted with gender fixed effects. In column 4, municipality fixed effects include municipality of birth of the mother fixed effects, as well as municipality of residence of the child fixed effects. Robust standard errors in parenthesis are clustered at the mother's municipality of birth. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## ONLINE APPENDIX

# Empowerment or Indoctrination? Female Training Programs Under Dictatorship

*Felipe González Mounu Prem Cristine von Dessauer*

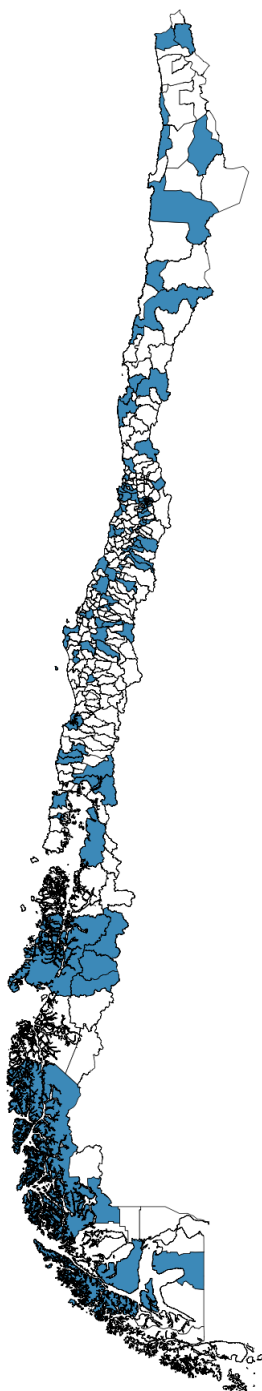
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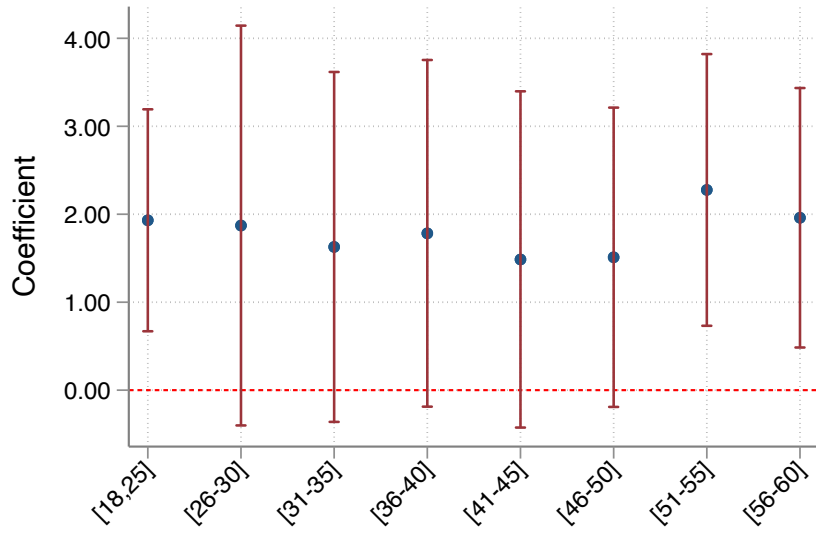
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**Figure A.1:** Geographic exposure to training buildings

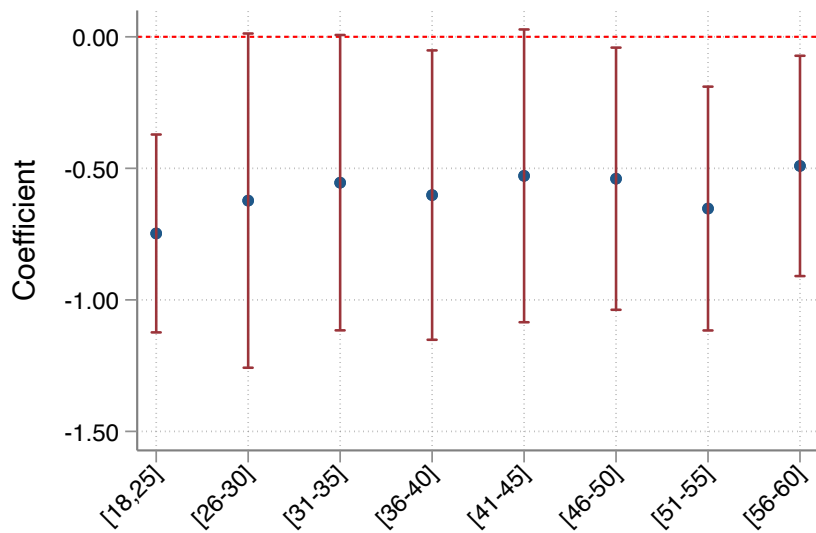


Notes: This map shows the geographic distribution of training buildings across Chile. Municipalities in which training buildings were located by 1990 are highlighted in blue.

**Figure A.2:** Training buildings and female labor force participation by age in 1992



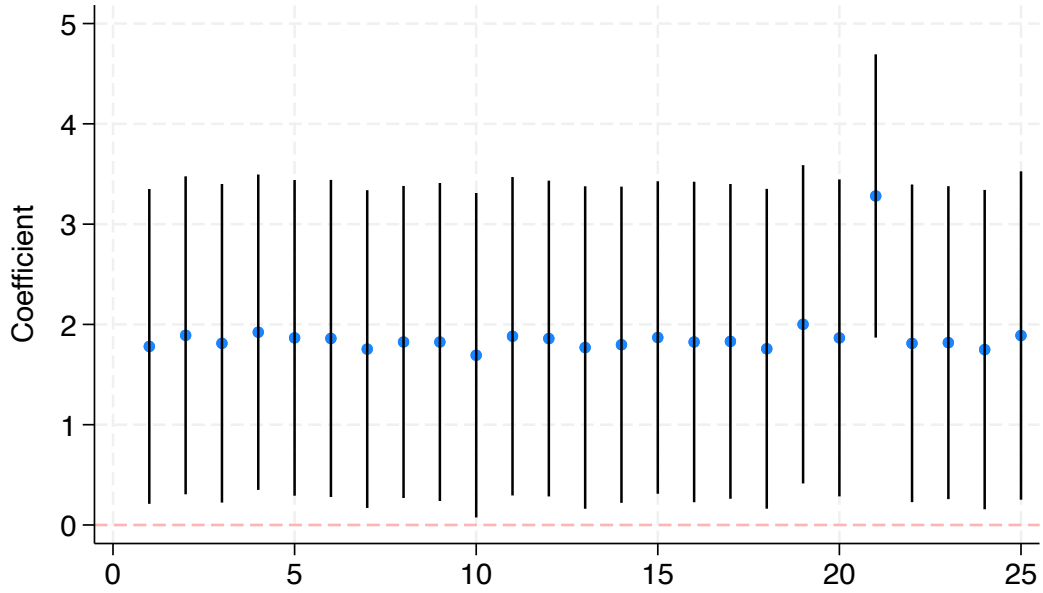
(a) Indicator training building



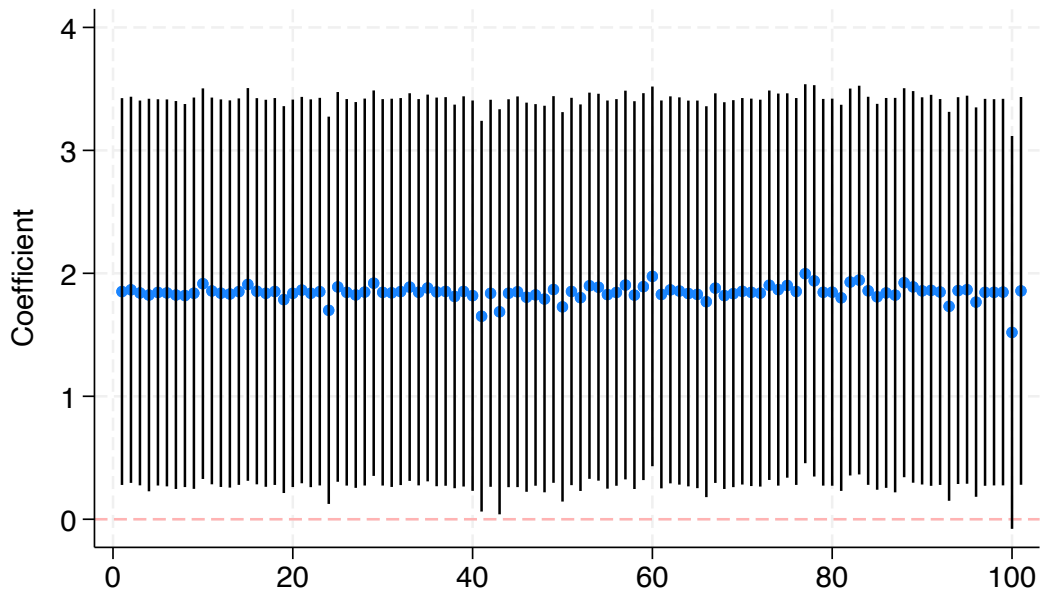
(b) Distance to the closest building

Notes: These figures present our estimates for the effect of training buildings on female labor force participation by age group in 1992. Blue dots represent the point estimate and vertical red lines the 95 percent confidence interval.

**Figure A.3:** Excluding geographical units



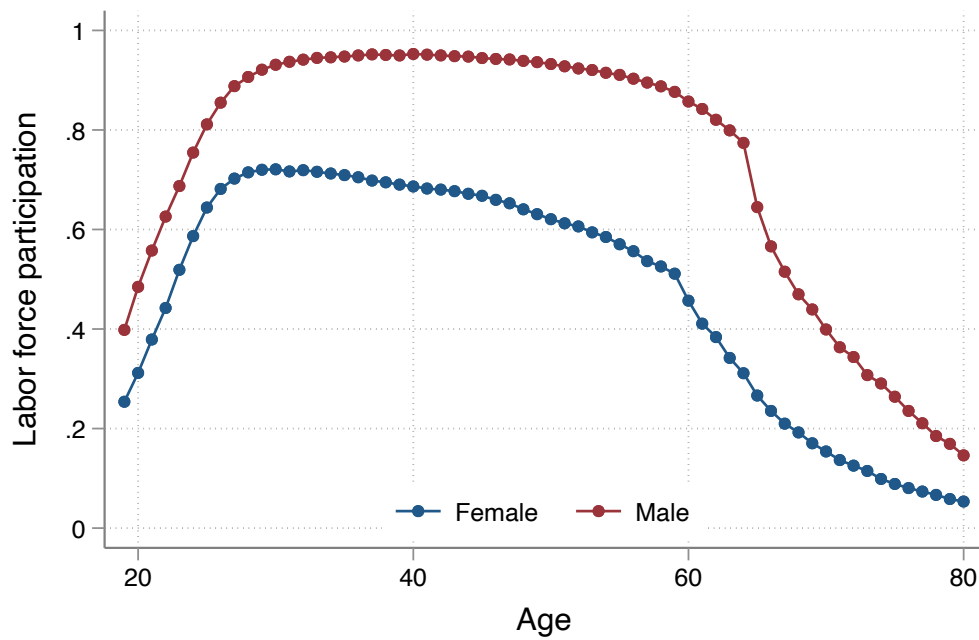
(a) Exclude provinces



(b) Exclude single municipalities with training buildings

Notes: This figure presents the impact of training buildings on labor force participation. The specification corresponds to the one in column 5 of Table 2 Panel A. In panel A, we exclude one province at the time, while in panel B, we excluded one municipality with training building at the time. Blue circles represent the different point estimates and vertical lines the 95 percent confidence interval.

**Figure A.4:** Labor force participation by cohort in 2017



Notes: This figure shows labor force participation by cohort and gender measured in the 2017 Census.

**Table A.1: Dual earners**

	Dependent variable: Dual earners			
	Full sample		Matching sample	
	(1)	(2)	(3)	(4)
Indicator training building	1.12 (0.80)		1.55*** (0.53)	
Log distance to closest building		-0.39* (0.21)		-0.43*** (0.16)
Observations	334	334	171	171
R-squared	0.679	0.680	0.713	0.710
Province fixed effects	Y	Y	Y	Y
Controls	Y	Y	Y	Y
Mean dep. variable	10.33	10.33	10.82	10.82

Notes: This table presents the effect of training buildings on dual earners. The dependent variable is the share of households where the household head and his/her partner are in the labor force in the 1992 Census. In columns 1 and 2, results are shown for the full sample, while in columns 3 and 4, they are shown for a sub-sample based on a propensity score constructed based on the labor force participation in the municipality in 1970. The number of households is used as analytical weight. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$

**Table A.2: State presence, social organizations, and remoteness**

		Dependent variable: Labor force participation													
		Institutional presence						Isolation/access				Market composition			
Additional control (Z):		Churches per capita		Social organizations		Indicator military base		Distance to hospital		Distance to port		Distance to airport		Tertiary sector	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<b>Panel A: Female</b>															
Indicator training building		1.84** (0.80)		1.86** (0.80)		1.87** (0.81)		1.89** (0.79)		1.81** (0.81)		1.75** (0.80)		1.62** (0.76)	
Log distance to closest building			-0.64*** (0.23)		-0.64*** (0.23)		-0.66*** (0.23)		-0.65*** (0.23)		-0.63*** (0.23)		-0.58** (0.23)		-0.59*** (0.23)
Z		1.44 (4.72)	2.07 (4.78)	-0.07 (0.18)	-0.07 (0.18)	0.13 (0.26)	0.19 (0.26)	-0.17 (1.02)	-0.11 (1.02)	0.36 (0.29)	0.37 (0.30)	-0.71*** (0.22)	-0.68*** (0.22)	0.30*** (0.12)	0.31*** (0.11)
<b>Panel B: Male</b>															
Indicator training building		0.00 (0.43)		0.07 (0.42)		-0.03 (0.44)		0.15 (0.44)		-0.07 (0.44)		0.07 (0.44)		0.16 (0.41)	
Log distance to closest building			-0.13 (0.14)		-0.16 (0.14)		-0.13 (0.14)		-0.19 (0.15)		-0.12 (0.14)		-0.18 (0.14)		-0.17 (0.14)
Z		-6.79* (3.49)	-6.70* (3.51)	-0.33 (0.20)	-0.34* (0.20)	-0.07 (0.18)	-0.05 (0.18)	-0.66 (0.66)	-0.80 (0.67)	0.55*** (0.16)	0.54*** (0.16)	0.47** (0.21)	0.49** (0.21)	-0.23*** (0.04)	-0.23*** (0.04)
Observations		334	334	334	334	334	334	334	334	334	334	334	334	334	334
Mean dep. variable (panel A)		33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86	33.86
Mean dep. variable (panel B)		82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65	82.65
Province fixed effects		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: This table presents the robustness of our results to adding state presence related variables. The dependent variable is the female and male labor force participation based on the 1992 Census. Panel A presents the results for female, while panel B for male. All state presence variables are measured before the dictatorship. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$



**Table A.3: Robustness checks for female labor force participation**

	Dependent variable: Labor force participation											
	No weights		Spatial controls				Moran I		LASSO controls		Crump et al. (2009)	
	(1)	(2)	Lat/Lon	Ln average distance	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>Panel A: Female</b>												
Indicator training building	1.64**		1.77**		1.88**		1.75**		1.29*		1.83**	
	(0.82)		(0.78)		(0.80)		(0.79)		(0.74)		(0.79)	
Log distance to closest building		-0.33		-0.62***		-0.64***		-0.60***		-0.53**		-0.63***
		(0.21)		(0.23)		(0.23)		(0.23)		(0.22)		(0.23)
<b>Panel B: Male</b>												
Indicator training building	0.08		0.02		-0.16		-0.09		0.33		-0.16	
	(0.50)		(0.44)		(0.44)		(0.43)		(0.38)		(0.44)	
Log distance to closest building		-0.14		-0.16		-0.08		-0.11		-0.15		-0.08
		(0.15)		(0.14)		(0.14)		(0.14)		(0.12)		(0.14)
Observations	334	334	334	334	330	330	334	334	330	330	312	312
Mean dep. variable (panel A)	33.86	33.86	33.86	33.86	33.90	33.90	33.86	33.86	33.90	33.90	33.93	33.93
Mean dep. variable (panel B)	82.65	82.65	82.65	82.65	82.68	82.68	82.65	82.65	82.68	82.68	82.67	82.67
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N

Notes: This table presents a set of robustness checks. Columns 1 and 2 present the results for the unweighted regression. Columns 3 to 8 add spatial level controls. Columns 3 and 4 add the latitude and longitude. Columns 5 and 6 add the log average distance from a given municipality to the rest of the municipalities, while columns 7 and 8 add the Moran eigenvectors with an eigenvalue greater than 0. Columns 9 and 10 select the set of controls following Belloni et al. (2014). Columns 11 and 12 truncate the sample based on a propensity score for the presence of a CEMA center constructed with the same set of controls from columns 9 and 10 and where the cut-off for the truncation was computed following Crump et al. (2009). Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. Relevant population in 1992 used as analytical weight except for columns 1 and 2. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A.4: Religiosity**

	Atheist				Evangelical			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A: All</b>								
Indicator training building	-0.14		-0.30		-0.98		-0.55	
	(0.21)		(0.35)		(0.81)		(0.65)	
Log distance to closest building		0.08		0.14		0.43*		0.27
		(0.06)		(0.11)		(0.25)		(0.20)
<b>Panel B: Matching sample</b>								
Indicator training building	0.32		0.43		-0.05		0.12	
	(0.22)		(0.36)		(1.07)		(0.85)	
Log distance to closest building		-0.05		-0.07		0.06		-0.01
		(0.07)		(0.11)		(0.29)		(0.23)
Observations (panel A)	334	334	334	334	334	334	334	334
Observations (panel B)	171	171	171	171	171	171	171	171
Mean dep. variable (panel A)	4.249	4.249	8.150	8.150	14.32	14.32	12.13	12.13
Mean dep. variable (panel B)	4.149	4.149	8.013	8.013	13	13	11.07	11.07
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y

Notes: This table presents the impact of training buildings on religiosity. The dependent variable in columns 1 and 2 (3 and 4) is the share of women (men) that reported to be atheist, while in columns 5 to 8 is the share of individuals that reported to be evangelical. Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a building with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$

**Table A.5: Divorce and years of enrollment in higher education**

	Share of women who are divorced		Avg. number of years enrolled in college	
	(1)	(2)	(3)	(4)
<b>Panel A – Full sample</b>				
Indicator training building	-0.07 (0.10)		0.03 (0.05)	
Log distance to closest building		0.00 (0.03)		-0.00 (0.01)
<b>Panel B – Matching sample</b>				
Indicator training building	0.03 (0.14)		0.04 (0.05)	
Log distance to closest building		-0.01 (0.04)		-0.00 (0.01)
<b>Panel C – Young population</b>				
Indicator training building	-0.06 (0.16)		0.02 (0.06)	
Log distance to closest building		-0.01 (0.05)		0.00 (0.02)
Observations (panel A and C)	334	334	334	334
Observations (panel B)	171	171	171	171
Province fixed effects	Y	Y	Y	Y
Controls	Y	Y	Y	Y
Mean dep. variable (panel A)	4.9	4.9	0.8	0.8
Mean dep. variable (panel B)	5.1	5.1	0.8	0.8
Mean dep. variable (panel C)	4.9	4.9	0.9	0.9

Notes: Panel A presents results for the full sample and Panel B presents results for a sub-sample constructed using a propensity score matching algorithm that pairs each of the 100 municipalities hosting a building with the nearest municipality of the remaining 230 (with replacement) in terms of 1970 labor force participation. Panel C presents the results for the full sample but restricting the sample to individuals between 28 and 40 years old. Controls include: logarithm of 1970 population, log-distance to Santiago and regional capital, the share of rural population in 1970, share of women population in 1970, and the vote share for Allende and Alessandri in the 1970 presidential elections. This table presents results using the 1992 Census. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$

**Table A.6:** Long-run impact of female training programs, matching sample

	Dependent variable: Labor force participation							
	2002 Census				2017 Census			
	Female		Male		Female		Male	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A: LFP</b>								
Indicator training building	3.61*** (1.06)		1.95*** (0.46)		2.54*** (0.93)		1.42*** (0.27)	
Log distance to closest building		-0.97*** (0.31)		-0.61*** (0.16)		-0.71** (0.28)		-0.44*** (0.10)
<b>Panel B: Retirement</b>								
Indicator training building	-0.33 (0.47)		-0.89 (0.59)		-1.03*** (0.38)		-1.15*** (0.31)	
Log distance to closest building		0.03 (0.12)		0.06 (0.19)		0.23** (0.11)		0.26** (0.11)
Observations	171	171	171	171	171	171	171	171
Mean dep variable (Panel A)	44.83	44.83	88.63	88.63	58.77	58.77	91.72	91.72
Mean dep variable (Panel B)	11.92	11.92	22.16	22.16	15.49	15.49	13.19	13.19
Province fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y	Y	Y

Notes: This table presents long-run impacts of training buildings. Results are shown for a sample based on a propensity score constructed based on the labor force participation in the municipality in 1970. In panel A, the dependent variable is the female and male labor force participation based on the 2002 Census for individuals between 30 and 60 years old (columns 1 to 4) and on the 2017 Census for individuals between 47 and 60 years old (columns 5 to 8). In panel B, the dependent variable is the share of retired individuals between 50 and 70 years old. Relevant population in each year used as analytical weight. Robust standard errors in parenthesis. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$

**Table A.7:** Descriptive statistics and sample selection

	Step-by-step sample selection:			
	All 25-40 year old	(1) + linked to parent	(2) + parent born between 1942 and 1964	(3) + household head is female
	(1)	(2)	(3)	(4)
Age	32.09 (4.61)	30.51 (4.48)	30.91 (4.41)	31.41 (4.49)
Female	0.50 (0.50)	0.48 (0.50)	0.47 (0.50)	0.47 (0.50)
Primary completed	0.95 (0.22)	0.96 (0.20)	0.96 (0.20)	0.95 (0.22)
Secondary completed	0.80 (0.40)	0.83 (0.38)	0.83 (0.38)	0.81 (0.39)
College enrollment	0.31 (0.46)	0.35 (0.48)	0.36 (0.48)	0.33 (0.47)
Household size	4.79 (6.85)	4.53 (1.84)	4.46 (1.85)	4.15 (1.92)
Relation to household head:				
Head	0.35 (0.48)	0.05 (0.22)	0.00 (0.00)	0.00 (0.00)
Spouse	0.24 (0.43)	0.02 (0.14)	0.00 (0.02)	0.00 (0.01)
Child (women)	0.26 (0.44)	0.90 (0.30)	0.99 (0.12)	1.00 (0.05)
In labor force	0.81 (0.39)	0.81 (0.39)	0.82 (0.39)	0.82 (0.38)
Unemployed	0.07 (0.26)	0.12 (0.33)	0.13 (0.34)	0.13 (0.34)
Currently Studying	0.12 (0.33)	0.17 (0.37)	0.16 (0.37)	0.16 (0.36)
Individuals	3,840,429	1,019,693	716,960	301,294

*Notes:* This table shows averages and standard deviations (in parenthesis) for socioeconomic variables described in each row. Column 1 shows values for the full sample of people with ages 25-40 in the 2017 population census. Column 2 shows the same statistics for the subsample that cohabits with a parent, irrespective of any characteristics of the parent. Column 3 further restricts the sample to household heads born between 1942 and 1964. Finally, column 4 (our estimating sample) restricts attention to the sample of individuals where the household head is a female.

**Table A.8: Intergenerational effects, extended sample**

Dependent variable: Indicator labor force participation					
	Female	Male	All	All	All
<b>Panel A</b>	(1)	(2)	(3)	(4)	(5)
Indicator training building × Female			1.59*** (0.42)	1.64*** (0.42)	1.59*** (0.47)
Indicator training building	1.11*** (0.32)	-0.48** (0.24)	-0.48** (0.24)		
<b>Panel B</b>					
Distance to building × Female			-0.49*** (0.09)	-0.51*** (0.09)	-0.52*** (0.11)
Distance to building	-0.37*** (0.08)	0.12** (0.06)	0.12** (0.06)		
Observations	416,957	485,238	902,195	902,195	444,096
Province fixed effects	Y	Y	Y	Y	Y
Municipality fixed effects	N	N	N	Y	N
Age of child fixed effects	Y	Y	Y	Y	Y
Age of closest woman fixed effects	Y	Y	Y	Y	Y
Household fixed effects	N	N	N	N	Y
Mean dep. variable	74.87	87.67	81.75	81.75	81.99

Notes: The sample includes all individuals in the 2017 Census between 25 and 40 years old that live with *at least one woman* born between 1942 and 1964. The indicator variable for training building takes the value one if any of these women were born in a municipality that hosted a training building under dictatorship. Distance to closest building refers to the minimum distance between any building and the centroid of each municipality where these women were born. Regressions include as fixed effects the age of the closest woman to the child (age of mother when available, then age of grandmother, etc). In columns 3 to 5, province, age of child, and age of the closest woman fixed effects are all interacted with gender fixed effects. In column 4, municipality fixed effects include municipality of birth of the closest woman fixed effects, as well as municipality of residence of the child fixed effects. Robust standard errors in parenthesis are clustered at the closest woman's municipality of birth. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table A.9: Intergenerational heterogeneous effects**

Dependent variable: Indicator labor force participation					
	Female	Male	All	All	All
Indicator training building	0.55*	0.54**	0.54**		
	(0.32)	(0.24)	(0.24)		
Indicator training building $\times$ Mother	1.65***	-3.06***	-3.06***		
	(0.18)	(0.14)	(0.14)		
<i>p</i> -value of difference	<0.01	<0.01	<0.01		
Indicator training building $\times$ Female			0.01	1.09**	0.46
			(0.43)	(0.43)	(0.48)
Indicator training building $\times$ Mother $\times$ Female			4.72***	1.63***	3.92***
			(0.20)	(0.18)	(0.38)
<i>p</i> -value of difference			<0.01	0.28	<0.01
Observations	416,957	485,238	902,195	902,195	444,096
Province fixed effects	Y	Y	Y	Y	Y
Municipality fixed effects	N	N	N	Y	N
Age of child fixed effects	Y	Y	Y	Y	Y
Age of closest woman fixed effects	Y	Y	Y	Y	Y
Household fixed effects	N	N	N	N	Y
Mean dep. variable	74.87	87.67	81.75	81.75	81.99

Notes: The sample includes all individuals in the 2017 Census between 25 and 40 years old that live with *at least one woman* born between 1942 and 1964. The indicator variable for training building takes the value one if any of these women were born in a municipality that hosted a training building under dictatorship. *Mother* takes the value one if the mother of the child was born in a municipality that eventually had a center. Regressions include as fixed effects the age of the closest woman to the child (age of mother when available, then age of grandmother, etc). In columns 3 to 5, province, age of child, and age of the closest woman fixed effects are all interacted with gender fixed effects. In column 4, municipality fixed effects include municipality of birth of the closest woman fixed effects, as well as municipality of residence of the child fixed effects. Robust standard errors in parenthesis are clustered at the closest woman's municipality of birth. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$

**Table A.10: Intergenerational effects, human capital and fertility choices**

	Any college		Yrs of college		Children
	Female	All	Female	All	Female
	(1)	(2)	(3)	(4)	(5)
<b>Panel A</b>					
Indicator training building	0.047*** (0.014)		0.308*** (0.088)		-0.027 (0.020)
Indicator training building × Female		0.003 (0.007)		-0.010 (0.109)	
<b>Panel B</b>					
Distance to closest building	-0.014*** (0.003)		-0.091*** (0.018)		0.008* (0.004)
Distance to closest building × Female		0.000 (0.002)		0.030 (0.030)	
Observations	135,558	93,466	135,558	93,466	129,087
Province fixed effects	Yes	Yes	Yes	Yes	Yes
Age of child fixed effects	Yes	Yes	Yes	Yes	Yes
Age of father fixed effects	Yes	Yes	Yes	Yes	Yes
Household fixed effects	No	Yes	No	Yes	No
Mean dep. variable	0.373	0.306	2.069	1.706	0.953

Notes: The dependent variable is an indicator that takes the value one if the individual enrolled in higher education (columns 1-2), years of enrollment in higher education (columns 3-4), and the number of children (column 5). The sample includes individuals in the 2017 Census between 25 and 40 years old that live with their mother and their mother is the head of the household. Robust standard errors in parenthesis are clustered at the mother's municipality of birth. Significance level: \*\*\*  $p < 0.01$  , \*\*  $p < 0.05$  , \*  $p < 0.1$