Using Policy to Engineer Identity:
How Singapore's National Service shapes ethnic and civic identities to reduce the divisive potential of ethnic diversity

Extensive research has associated ethnic diversity with a range of negative outcomes. But the relationship between diversity and these outcomes is not a simple or inevitable one. Ethnic diversity only affects outcomes when it forms the basis of social or political divisions. Why is ethnicity highly divisive in some places, but less so in others? Excellent scholarship has focused on a wide range of explanations, but the role of public policy has often been overlooked, despite its ability to shape the conditions under which ethnic groups interact. This paper examines the efficacy of Singapore's National Service program, which is designed in part to bridge ethnic divisions in the highly diverse nation. I find considerable evidence that the program has purposefully altered the identity of conscripts in a manner that has a durable effect on their attitudes and behaviors in inter- and intra-ethnic interactions. Specifically, I find that the program is effective at constraining the divisive potential of ethnic diversity among its conscripts by reducing the salience of their ethnic identities and increasing the salience of their shared civic identities. I isolate the causal effects of the program by exploiting a natural experiment that produces exogenous variation in the intensity of the National Service treatment. An innovative measurement strategy that relies on vignettes and survey experiments provides effective measurements of identity. The analysis demonstrates the central role that policy plays in determining the salience of ethnic and civic identities, which in turn determine the outcomes of ethnic diversity. Beyond this, the findings shed important light on the conditions under which policy can effective in shaping identities and outcomes.

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1. Introduction

A cursory glance at research from multiple academic disciplines suggests that few things are more debilitating for a country than an ethnically diverse population. Whether it is through an increased potential for civil conflict, reduced levels of trust, or inadequate provision of public goods, ethnic diversity is associated with relatively poorer social, political, and economic outcomes. Yet the relationship between diversity and those outcomes is not a simple or one-dimensional one, as illustrated by the fact that Switzerland and Malaysia have nearly identical scores on the ethno-linguistic fractionalization (ELF) index, the most commonly used measure of ethnic diversity. In fact, ethnic diversity only affects outcomes strongly where ethnic identities are highly salient and become the basis for division in the public sphere. What determines whether ethnic identities become salient enough to strongly affect important social, economic, and political outcomes? Structural factors like the relative size of groups are frequently identified as a key determinant (Fearon 2003; Posner 2004a; Chandra 2004). Institutional factors – especially electoral systems – have also featured prominently in comparative explorations (Lijphart 1977; Horowitz 1985; Roeder and Rothchild 2005). Other influential studies have looked towards areas like the structure of civil society (Varshney 2002), the logic of resource allocation (Rabushka and Shepsle 1972), incongruence between national and state boundaries (Gellner 1983), the historical construction of identity (Laitin 1986), or the instrumental usage of ethnicity by political elites (Brass 2003). Largely absent from this exploration, however, has been an explicit focus on the role of public policy. This paper brings this element of the state back into the forefront by exploiting a natural experiment to examine the role that public policy plays in determining the salience of ethnic identities.

I structure this paper around the following central question: Can states engineer the identities of their citizens to shape important outcomes? More precisely, can public policy reduce the divisive potential of ethnic diversity by reducing the salience of ethnic identities and increasing the salience of unifying civic identities? The relatively conscribed recent emphasis on policy in studies that seek to explain variation in the salience of ethnicity is surprising for two reasons. First, modern high-capacity states have a remarkable ability to shape the social, economic, and political frameworks within which ethnic groups interact. Specifically, public policy areas like education, housing, and military service can be used to foster meaningful interaction between ethnic groups, which can have the effect of reducing the salience of ethnic identities under the right conditions (Allport 1954; Pettigrew 1998; Dunning 2010; Samii 2013). States can also inculcate inclusive civic identities into their populations that can act as alternatives to ethnic identities, providing a bridge between ethnic groups (Smith 1991; Transue 2007). Together, this gives states at least a theoretical ability to influence how ethnic diversity affects important outcomes. Secondly, there exists a strong – even if neglected – tradition in the social sciences and humanities of studies that assume the state can shape the identities of its citizens (Geertz 1963; Weber 1976; Anderson 1991).

Understanding how policy can be used to affect the outcomes of ethnic diversity is perhaps more relevant today than ever before. This is because globalization and mass migration have fundamentally altered the demographic structures of many countries around the world, leaving governments scrambling to address the considerable social, economic, and political consequences. Not only has mass migration increased the amount of diversity, but it has also changed the character of diversity in important ways. Relative to areas with organic diversity where demographic patterns have been relatively stable over time, diversity resulting from rapid mass migration engenders particularly complex issues. This is largely because the resulting social structures have fewer natural cross-cutting cleavages than more organic systems. For example, while ethnic groups may differ in terms mother tongue, religion, traditional culture, and physical appearance in diversity created my mass migration, they often only differ in terms of one or two dimension in organic systems. This greater cultural distance between groups in the former case amplifies the salience of ethnicity, even where migrant groups are relatively small in size (Brubaker 1996; Fearon 2003; Koopmans *et al.* 2005; Baldwin and Huber 2010). This presents new – and in many respects unprecedented – challenges for the state. Thus while it may be easy to implicitly accept, for example, Eugen Weber's (1976) argument that the French state turned its regionally fractured population into a cohesive nation over the course of nearly a century by building roads, public schools, and a mandatory military service, this case does not speak directly to the contemporary context.

A number of key questions emerge from this. First, can states purposefully alter identities in complex cases where diversity is the result of mass migration? Second, can states purposefully alter identities in the relative short term, in other words, over the course of years rather than decades or centuries? Third, if it is possible to alter identities over the relative short term in complex cases, which mechanisms are responsible and which conditions are critical? This paper begins to address these questions. I focus on the case of Singapore because it fulfills important criteria: first, its high level of diversity is the result of migration from distant parts of the world, leaving relatively few natural cross-cutting cleavages. Second, it has a history of ethnic conflict, increasing the salience of ethnicity. Third, it also has invested heavily in policies designed to reduce divisiveness of ethnic diversity. I focus in particular on its flagship National Service program, in part because an element of its administration allows me to isolate its effects, and in part because it allows me to identify *contact* and *socialization* mechanisms through which it functions.

Making inferences about the program's efficacy, however, requires that I overcome two core problems that complicate research into the ability of states to shape the identity of their citizens. First, it is generally difficult to make causal inferences about individual public policies. This is because they are rarely implemented using approaches like randomized controlled trials (RCTs) that are designed to isolate causality. In lieu of this, the ability of researchers to disaggregate the effects of individual policies from the countless other things concurrently happening in complex societies is limited. Second, meaningfully measuring identity is difficult, because identity is largely unobservable, context dependent, and fluid. I provide solutions to both of these

constraints. First, I use a causal identification strategy that exploits exogenous variation in the intensity of Singapore's National Service treatment. Specifically, I exploit differences between two types of units that vary in their exposure to the contact and socialization mechanisms, where assignment into units is orthogonal to identity. This research design allows me to make robust causal inferences about the program's efficacy. Secondly, I measure identity indirectly by capturing its observable manifestations through survey experiments combined with conventional observations. This measurement strategy minimizes the risk of bias and ensures that the measurements are capturing dimensions of identity that have clear practical and theoretical consequences. The analysis is based on original data compiled through a proprietary survey run in Singapore in 2012 and 2013.[1] This data is complemented by interviews and focus groups run during the same period.

This research makes several contributions. First, I find considerable evidence that Singapore's National Service program has been highly effective at shaping identities in ways that reduce the divisive potential of ethnic diversity. This finding does not diminish the importance of research that focuses on structural factors, institutions, or histories, but it does suggest that we need to take policy decisions seriously when trying to understand variations in the effects of ethnic diversity. In short, policy matters. Secondly, I provide important insights into the conditions under which contact and socialization can purposefully shape identity. Specifically, I find that the mechanisms have a substantial impact only when individuals are removed from their private spheres and immersed in treatment environments. More moderate administrations of the mechanisms that allow individuals to maintain their private sphere existences do not appear to significantly alter identities. This has important implications for other policy areas like education, housing, and employment that also rely on the contact and socialization mechanisms. Lastly, this paper makes methodological contributions by demonstrating a measurement strategy that captures theoretically and practically relevant changes to the microfoundations of ethnic and civic identities while minimizing the risk of measurement bias.

The paper proceeds as follows: Section one reviews the literature on the determinants of ethnic salience and argues that the role of the state is frequently neglected. Section two establishes why Singapore's National Service is an ideal case to test whether public policy can purposefully shape ethnic and civic identities. Section three describes the research design while section four discusses my measurement strategy and data. Section five conducts empirical tests of three key hypotheses. Section six offers concluding remarks.

[1] I thank the National Science Foundation (NSF), the UC Pacific Rim Research Program (PacRim), and the Center for Emerging Pacific Economies (EmPac) for providing the funding for the survey. I also thank the Institute of Southeast Asian Studies (ISEAS) in Singapore for providing institutional support, as well as the hardworking team of enumerators – especially Suyin Tay, Kai Heng Lim, Hazel Tan, and Zaki Ahmad – for doing the difficult leg work of data collection.

1. Theory

Why should we be so concerned with the relative salience of ethnic identity in the public sphere, and by extension, whether public policies can effectively shape the salience of those identities? The evidence that ethnic diversity is associated with a range of negative political and economic outcomes is strong. High levels of ethnic diversity, for example, have been linked with outcomes like an increased likelihood of civil war (Collier *et al* 2003), weaker economic growth (Easterly and Levine 1997), poor governance (La Porta *et al* 1999), and inefficient public goods distribution (Alesina *et al* 1999; Habyarimana *et al* 2007). But in each case, the relationship between ethnic diversity and the outcome of interest is contingent upon ethnic identity being salient and influencing behavior. The ubiquitous social identity theory (Tajifel and Turner 1979) provides insights into why this is the case. It contends that individuals are constantly classifying others around them into either an in-group or an out-group category - in other words, into an 'us' and a 'them'. The consequences of this bifurcation affect not just individual-level interpersonal matters like propensity to trust and evaluation of others, but also shape the nature of collective behavior. In short, when ethnic identity becomes the basis for dividing the social or political sphere into in-groups and out-groups, ethnic diversity can impede collective action, harm governance, and facilitate mobilization for conflict.

What determines why ethnicity is salient in some circumstances but not others? Social science scholarship has focused strongly on the role of structural factors, particularly the relative sizes of ethnic groups. Posner (2004a) provides the clearest example of this approach by arguing that ethnicity becomes salient when groups are large enough to mobilize for the purposes of political competition. While less explicit, this logic informs older work like Rabushka and Shepsle's (1972) pioneering application of game theory logic, and Bates' (1983) conceptualization of ethnic groups as a potential vehicle for minimum winning coalitions, as well as recent work like Fearon (2003), Chandra (2004), and Eifert *et al* (2010), among many others. The assumption that relative group size can be used to capture the effects of diversity also informs the ubiquitous Ethno-linguistic Fractionalization (ELF) measure, which appears widely in cross-national research.[2] Other influential studies explain variation in the effects of ethnic diversity without focusing explicitly on its underlying salience. Lijphart (1977) and Horowitz (1985), for example, examine how electoral systems shape the incentives for political mobilization along ethnic lines, but they make an implicit assumption that the underlying salience of ethnic identity is largely fixed. Varshney (2002) makes a compelling case that networks and patterns of civic engagement explain why "sparks" can trigger ethnic violence in some cities but not in others, but also takes the underlying salience of ethnic identity as relatively invariable.[3]

[2] Note that numerous objections have been raised about the assumptions behind ELF measures, most notably by Laitin and Posner (2001), Fearon (2003), and Posner (2004b).

[3] The spectrum of other theories with relevance to explaining variations in the salience of ethnicity is immense. While few modern theorists of ethnic identity address this question directly, their conceptualizations of ethnic identity itself have strong consequences for its salience. Contrary to exaggerated contrasts between constructivists and primordialists, nearly all theorists see ethnic identity

Few of the seminal studies in ethnic politics explicitly address the importance of context, without which we cannot begin to understand broad variation in the salience of ethnic identity. Many of those studies have been situated in Sub-Saharan Africa and South Asia, where large-scale inter-regional population movements have been relatively rare. As a function of that population stability, ethnic groups in those contexts frequently differ on only one or two dimensions, while being largely indistinguishable on other important dimensions. In parts of India, for example, Hindus and Muslims differ in their religious beliefs, but practice the same local customs, speak the same languages, and are indistinguishable from one another in terms of physical attributes. To underscore the extent to which important attributes in these systems are shared, it is worth noting that even the local populations often have difficulty categorizing other around them into coethnic and non-coethnic groups.[4] The relative cultural proximity between groups and presence of multiple cross-cutting cleavages enables ethnic cleavages to form around several possible dimensions, for example mother tongue, religion, region, or physical attributes (Posner 2004a; Dunning and Harrison 2010; Chandra 2005; Laitin 1986). This enables multiple potential constellations of ethnic groups. When ethnic diversity follows this pattern, the relative size of groups provides powerful insights into which ethnic identities will become salient, lending credence to the ELF measure.

The ethnic diversity caused by mass migration is different in fundamental ways. In Singapore, for example, where diversity is the result of migration from highly dissimilar parts of the world, the Chinese, Malay, and Indian ethnic groups are with few exceptions clearly distinct on all important dimensions of ethnic identity, including religion, traditional culture, mother tongue, and physical attributes, leaving no natural cross-cutting cleavages. In systems like this, the range of possible ethnic group constellations is greatly constrained; the cultural distance between ethnic groups means that groups cannot credibly merge into a common ethnic group, even if doing so would be politically advantageous based on their relative sizes. In contexts like these where ethnocultural differences are eminently visible, the potential for those differences to become salience is intrinsically high.

If relative group size does not reliably predict the salience of ethnicity in countries where diversity is the result of mass migration, what does? I argue that two factors are of particular importance. The first is the extent to which economic and social inequalities are structured along ethnic lines; the greater the extent of 'ranking' in the system, the poorer the quality and the extent of inter-ethnic interaction will be, and the more salient ethnic identities will become (Horowitz 1985). The second is the extent to which the dominant national

as being shaped by environmental conditions rather than absolutely fixed in a primordial sense. The main distinction to be made is between those who see it as relatively flexible (Brass 2003; Brubaker 1996; Laitin 1986 and 1998, Fearon and Laitin 2003) and those who see it as relatively sticky once it is established (Anderson 1991; Geertz 1963; Gellner 1983; Smith 1986). To generalize, the former conceptualizations allow for greater variation in in the salience of ethnicity than the latter, though in no cases is the ability of public policy to shape identity in the short term carefully examined.

[4] The coethnic identification rate – the rate at which individuals correctly classify others of their own ethnic group as coethnics – was only in the vicinity of 50% in the study of a diverse neighborhood in Kampala, Uganda (Habyarimana *et al* 2007a and 2007b)

framework is able to incorporate all constituent ethnic groups. A range of research has demonstrated that national identities can have a unique capacity to reduce the likelihood that ethnic identities become the basis for social division. This can happen through a recategorization process, where individuals supplant ethnic identities with national identities (Gaertner & Dovidio 2000), or through an integrative process, where individuals recognize their ethnic identity as a component of a larger common group identity (Brewer & Gaertner 2001; Hornsey & Hogg 2000). This capacity is the basis of Miguel's (2004) argument that Tanzania's stronger national identity has reduced the divisiveness of its ethnic diversity and helped it develop more effectively than its otherwise similar neighbor Kenya, which is riven with ethnic fractionalization. Transue (2007) demonstrates the ability of national identities to subsume ethnic identities in a laboratory setting; when a national identity is experimentally strengthened, subjects extend in-group status to non-coethnics and consequently are more favorable to policy that selectively favors them. Robinson (2013) similarly finds a negative relationship between the strength of national and ethnic identities using survey data from sixteen sub-Saharan African countries.

Whether a national identity is able to subsume ethnic identities and reduce their divisiveness, however, is contingent on the nature of national identities, which we might conceive of as falling on a spectrum bounded by ethnocultural national identities on one end and civic national identities on the other (Meinecke 1962; Smith 1991; Brown 2000). At the ethnocultural extreme, national identity is a direct reflection of the dominant ethnic identity and is defined by elements like kinship, race, language, and religion (Conner 1994). At the civic extreme, national identity is based on citizenship and loyalty to an often secular constitution and/or national ideology. Where along the spectrum a national identity falls has important consequences. An ethnocultural national identity may strengthen intra-ethnic bonds, but it will likely also increase the difficulty of inter-ethnic cooperation and put strains on non-dominant ethnic groups that find assimilation either undesirable or impossible. A civic national identity, on the other hand, can function as a supra-ethnic identity, providing a unifying alternative to potentially divisive ethnic identities. For that reason, it is much better positioned to facilitate inter-ethnic cooperation and reduce the risk of ethnic fractionalization. Clearly, the ability of a national identity to mitigate the risks of ethnic heterogeneity diminishes as the national identity in question moves towards the ethnocultural end of the continuum.[5]

Modern high-capacity states have the capacity to shape the two main determinants of ethnic salience in mass-migration systems. Through control over policy areas like education, housing, employment, and military

[5] Germany provides a clear example of this. From the time Johann Gottlieb Fichte and Johann Gottfried von Herder spoke of and to a German nation (which had yet to develop even the first semblances of a state) in the early 1800s, all the way through to the 1980s when Germany began to see substantial changes to its demographic structure, Germany's national identity was clearly predicated on the idea of a shared ethnocultural German identity. The conferral of citizenship by *jus sanguinis* – blood – was a strong reflection of this principle. This conceptualization, however, increasingly caused friction as the number of *Gastarbeiter* and other migrants increased. Out of need and in an effort to bridge these divides, identity has slowly shifted towards the civic end of the continuum, which is clearly reflected in the policy of multiculturalism and the increasing role that *jus soli* plays in official recognition of inclusion into the nation - particularly after 1999.

service, states can alter the extent and quality of inter-ethnic interaction, as well as impact economic and social inequalities. Furthermore, those policy areas can also be used to shape the gestalt and inclusiveness of national identities. In conjunction, modern states possess – in theory – a strong potential to engineer the identities of their citizens in ways that can to shape the divisive potential of ethnic diversity. This observation is a reflection not just of studies like Weber (1976), Geertz (1963), and Anderson (1991), but also plays a central role in the large body of research on the politics of multiculturalism that examines how national and civic frameworks can best be structured to best incorporate the diversity of groups resulting from mass-migration (Taylor 1994; Kymlicka 1995; Barry 2001).

I build on this foundation in two important ways. First, I incorporate a research designs that allows me to make causal inferences about a particular policy. This allows me to test whether a modern high-capacity state can purposefully alter ethnic identity in the relatively short term, even in a difficult case marked by an absence of natural cross-cutting cleavages. By focusing on mechanisms and the condition under which they function, I can provide initial insights into the transferability of particular policy approaches. Second, I use a measurement strategy that provides insights into the microfoundations of identity change by capturing how subtle shifts in ethnic and civic identities impact individual-level attitudes and behaviors in inter-ethnic interactions. In other words, rather than relying on abstract and vague notions of identity change, I focus on measurable behavioral and attitudinal changes that have clearly identifiable theoretical value.

2. Singapore, Military Service, and Mechanisms

I begin the empirical analysis with a brief discussion of the country and policy case that I structure this paper around. Multiethnic Singapore provides an ideal test for the question of whether public policy can be used to shape ethnic and civic identities.[6] This has three main reasons. First, its diversity is the product of mass-migration from dissimilar regions of world, as is typical of the pattern that is becoming increasingly prevalent throughout the world. Second, Singapore has implemented a distinctly civic variety of national identity, which in theory should provide a framework into which the constituent ethnic groups can readily integrate, as well as a common identity that can supplant ethnic identities in key situations. Third, Singapore has implemented a

[6] Several issues must be addressed regarding the use of Singapore as a case. First, the history I present here closely follows the historical narratives favored by the state, which has been contested by numerous academics. It is, however, beyond the scope of this paper to engage in the debate over relatively nuanced differences in interpretation. Second, the efficacy of Singapore's National Service program raises normative questions about the performance of the state and Singapore's dominant People's Action Party (PAP). These issues are likewise beyond the scope of this paper; my intention here is to establish whether and how Singapore's National Service program affects ethnic identity in meaningful ways, not to endorse or challenge the efficacy of the state. Lastly, Singapore is an exceptional case on many dimensions, which raises concerns about generalizability. These are mitigated by the fact that I do not intend to present Singapore's National Service program as a readily transferable policy solution to issues facing multiethnic countries. Rather, I use the case to demonstrate that it is possible for a state to shape the nature of its citizens' identities in ways that have important consequences for inter-ethnic relations.

large-scale National Service program whose stated purposes are to increase the country's defense capabilities *and* to foster civic ideals in its citizens. Importantly, this program has exogenous variation in the intensity of its treatment, which functions as a natural experiment that allows me to make robust causal statements about its effects.

Singapore is a small island of roughly 700 square kilometers located at the mouth of the Strait of Malacca in Southeast Asia. It was sparsely inhabited when the British East Indian Company arrived in 1819 to establish a trading post. Its strategic location and free port status led to rapid commercial success and expansion. The demand for labor was filled predominantly with economic migrants from China and India, rather than through the region's indigenous Malays. As a consequence, few in the largely uneducated and overwhelmingly male population viewed the commercial entrepôt as a permanent home, instead maintaining loyalties with their countries of origin. This population was divided into distinct groups that had neither language, religion, culture, nor sense of intertwined destiny in common. The fractured nature of the population was entrenched by colonial policy, which maintained a strict geographic separation of the groups, and coupled ethnic identity and economic activity. This produced what Furnivall (1944) termed a *plural society*, in which multiple ethnic groups share a common territory but maintain distinct identities and do not mix outside of the marketplace. Not until the 1930s did sizable numbers of families begin to settle in Singapore with the intention of making a permanent home on the island. While this altered the social environment, it did not substantially reduce the depths of the ethnic divides. The quick defeat of the British during the Second World War and the rapidly changing political dynamic in London in the following years sealed the fate of the colonial era. Following a failed attempt to secure an economic hinterland through merger with Malaysia in 1963, Singapore found itself a fully independent country in 1965.

Conditions facing the country at independence were daunting. Aside from the flourishing port, Singapore had little industry and no natural resources. It faced threats from hostile neighbors and remnants of a Malayan communist movement domestically (Doner, Ritchie and Slater 2005). Most importantly, despite the show of nationalism during the independence celebrations, little tied the members of Singapore's main Chinese, Malay, and Indian ethnic groups together, and instances of ethnic violence in 1950 and 1964 appeared to substantiate fears of ethnic conflict. In response to this, political capital was immediately focused on creating unity and a sense of shared destiny among the population. The chosen nation building model was oriented towards fostering a civic Singaporean national identity that could subsume the constituent ethnic identities in the public sphere. The characteristics of the chosen model place Singapore firmly on the civic national identity end of the spectrum and differentiate it strongly from neighbors like Thailand and Malaysia, whose constructed national identities are distinctly more ethnocultural in nature.[7]

[7] Singapore's nation building policy underwent minor shifts during the late 1970s and 1980s, when some aspects of the civic Singaporean identity became subtly Sinicized. The official sanctioning of "Asian values" in the 1990s also saw aspects of ethnic

Singapore's National Service program was established in 1967 as one of the government's first major policy initiatives. Its creation addressed dual needs. The first was to rapidly build defense capacities without putting undue strain on limited state resources (Huxley 2000). Second, Singapore's leadership felt that conscription and military service could play a powerful role in shaping a new generation of Singaporean citizens. A booklet, distributed by the government in 1967 to announce the implementation of National Service in the Singapore Armed Forces (SAF), makes this aim explicit:

> The community in Singapore… is not a closely knit one. National Service will provide an opportunity for all races to come to know one another better in an environment in which they will be taught to love their Nation, to understand social obligations and develop civic mindedness and strength of character. The aim of National Service is not only to train our youths to be efficient fighting men skilled in the arts of war, but also to be good citizens imbued with the values and principles of any free, democratic and self-respecting Nation. Above all, National Service is the supreme test by which the Nation will know those who have in them true and unswerving loyalty to our people, the concern for their well-being and an abiding faith in our nationhood. (Singapore: MID 1967)

Singapore began limited conscription and an extensive public relations push to win support for the program almost immediately following its announcement in 1967. The *Enlistment Act* of 1970 expanded conscription to all male citizens and permanent residents, and stipulated a full-time service period of 2 to 2.5 years together with yearly reservist liabilities now extending to the age of 40 for non-officers (50 for officers). In the mid-1970s, the Singapore Police Force (SPF) and the Singapore Civil Defense Force (SCDF) began taking a small portion of conscripts (under 15%) to complete their National Service obligations within their ranks. The Singapore Armed Forces (SAF), which takes the vast majority of National Service conscripts, is itself divided between the Army, the Air Force, and the Navy. Roughly 90% of SAF conscripts are assigned to the Army, as the Air Force and Navy, besides being far smaller organizations, are also primarily composed of professional personnel. Exemptions to National Service are nearly non-existent; very few are given health exemptions due to the extensive need for non-combat service personnel, economic hardship for family dependents is no longer recognized, and conscientious objector exemptions do not exist. In short, all strata of society, from the poor to the children of government officials and the economic elite, complete service.

National service – or more broadly, military service – is well situated to shape identity. From ancient Greece and Rome, through czarist Russia and Meiji Japan, to Leninist Russia and 20th century United States, military service has been seen as a 'school for the nation' capable of transforming a citizenry *en masse* (Krebs 2004, Weber 1976, Posen 1993). Its impact occurs primarily through the two mechanisms of *socialization* and *contact*. Socialization involves the transmission of norms and values, and occurs in households, schools, and countless other contexts. The military, however, may be particularly effective at socialization, as it can act as a

identity encroach into the public sphere. Despite these shifts, however, the nature of the officially sanctioned Singaporean identity has remained overwhelmingly secular and civic, especially in comparison to other multiethnic societies (Barr and Skrbis 2008).

'total institution' that controls more elements of the environment than is possible in a civilian setting (Lovell & Hicks Stiehm 1989). Conscripts are removed from society and immersed in a fully structured environment where their behavior is perpetually monitored and shaped through a combination of powerful incentives and punishments, often occurring at the group level to further foster mutual reliance and cohesion. Singapore's conscripts typically begin service at age 18 and are away from home for the first time, making them especially impressionable. Uniforms, standard issue haircuts, and supplanting names with ranks remove elements of individual identity to allow greater space for the transmission of a collective identity. These conditions all facilitate the transmission of selected norms to the conscripts. In short, the combination of various drills, exercises, pledges, oaths, and mandatory national education classes socialize Singapore's National Service conscripts to internalize a set of core values that emphasize loyalty to the country and unity amongst its citizens. The clear message is that in matters of national importance, the shared Singaporean identity is to trump all potentially divisive identities, whether ethnic, religious, or economic in nature.

The second key mechanism through which National Service shapes identity is contact. Aside from completing the structured elements of National Service like exercises, parades, and drills shoulder-to-shoulder, many conscripts are also subject to a form of managed cohabitation. Those who live in barracks experience a type of intimate togetherness that remains shielded and private in civilian life; they eat together, sleep together, brush their teeth together, shower together, and pass what are often countless hours of tedium together. Beyond that, the military context fulfills the key conditions stipulated by Allport (1954), as well as a key fifth condition proposed by Pettigrew (1998).[8] So contact, by demystifying the 'other' in a controlled environment where unity is fostered, superficial difference are erased, and hierarchies are based on clearly structured (non-ethnic) ranks, also fundamentally impacts the identity of conscripts.

3. Research Design

Precisely measuring the ability of Singapore's National Service program to shape identity is made difficult by its policy of universal male conscription, since this does not leave a reliable control group. Even pre- and post-surveys are problematic, as they would have difficulties disaggregating the effects of the service from the effects of independent maturation over the two-year period.[9] I overcome this by exploiting exogenous variation in the

[8] Allport's (1954) four conditions: (1) groups have equal status within the institution; (2) members work towards common goals; (3) goals require cooperation to reach; (4) the goal of integration must have broader support. Pettigrew (1998) adds a fifth condition: (5) friendship formation across group lines is possible.

[9] Using similar-aged females as a control group is problematic given the myriad of other potential differences between genders besides National Service conscription; in short, even if we saw a difference in attitudes and behaviors between genders post-National Service, we could not be confident of what is causing it. A pre- and post-service survey is likewise problematic because we cannot clearly discern between the direct effects of National Service and the effects of the natural maturation we expect to occur in young men between the formative ages of 18 and 20.

intensity of the socialization and contact treatments. National Service conscripts are typically assigned to one of two types of units: "stay-in" units that live together in barracks for the duration of their service, or "stay-out" units that work 8 to 10 hour shifts daily on base but live at home in the civilian world for portions of their service.[10] Conscripts from stay-in units receive substantially more intensive and longer exposure to the socialization and contact treatments than do conscripts from stay-out units. Importantly, I argue that the criteria used to assign conscripts into stay-in or stay-out units are orthogonal to identity, making the treatment intensity exogenous and allowing us to isolate the effect of National Service on civic and ethnic identity. I will briefly review the unit assignment process and then show a balance table to substantiate this claim.

Unit assignment has a health component and a random component. Figure 1 gives a stylized account of the process.[11] All potential conscripts undergo a basic medical screening prior to conscription that accords them a health grade. This grade is based on system functionality of sight, hearing, locomotion, and basic cognition, rather than physical fitness. Poor scores can be the result of issues as serious as a heart condition or as minor as flat feet or scar tissue, and often conscripts are unaware of the condition prior to the screening. A 'passing' score designates conscripts as 'combat-fit', while a non-passing score designates them as 'non-combat fit'. Combat-fit conscripts proceed to basic military training (BMT) geared towards combat training for a period of typically two to four months, depending on fitness levels.[12] Those who are classified as non-combat fit proceed to shorter versions of BMT geared towards non-combat vocations like logistics, communications, maintenance, administration, and other supporting roles like drivers, medics, and guards. Following BMT, conscripts are assigned to units.[13] Most combat units are stay-in, which means that conscripts live together in barracks for the duration of their two year service. On the other hand, most non-combat technical and support units are stay-out units, in which conscripts work for 40 to 50 hours per week in a military facility, but typically live at home for a large portion of their service period. There is an important exception, however, in that some combat units are stay-out and some non-combat units are stay-in. The reasons for this are idiosyncratic and variable. For example, a particular combat unit may be stay-out because its barrack facilities are under

[10] A limited number of conscripts are also assigned to "shift" units, which alternate between living on base and living in the civilian world for the duration of their National Service. In many ways, the dynamic within these units resembles those from stay-out units, so I cluster them for the sake of the analysis. Any potential bias from this decision biases against my hypotheses, since it reduces the variation between the two treatments.

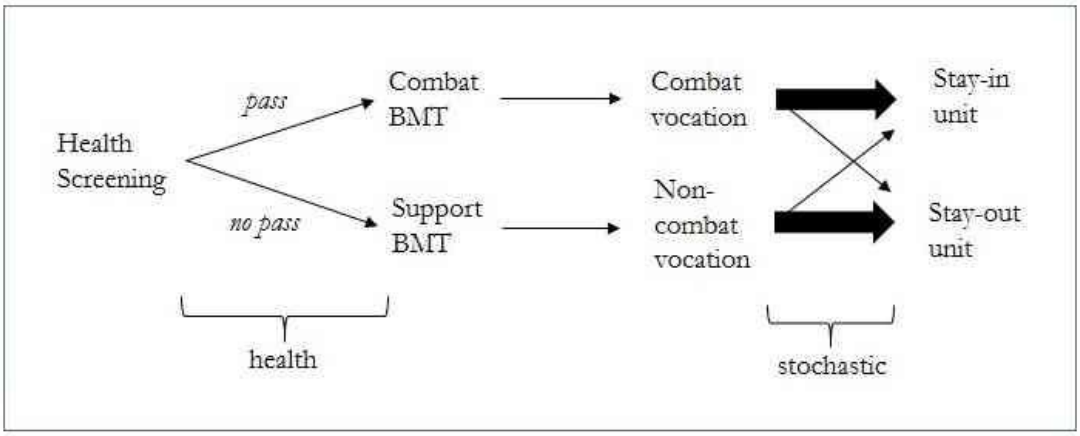
[11] The National Service program has been in operation for over 40 years, during which time it has undergone significant change, including to the unit assignment process. The description I provide is a generalization that captures the basic process throughout the program's evolution.

[12] Conscripts who score well on the physical fitness test proceed straight to BMT, while those who do poorly and have a BMI above 27 complete a fitness-oriented training before proceeding to BMT.

[13] The exception to this are a small portion of high achieving conscripts with strong academic backgrounds, who are selected for additional training to become specialists in the School of Infantry Specialists (SCS, formerly SISPEC) or officers in the Officer Cadet School (OCS). Following this additional training of 6 or 9 months respectively, specialists and officers are then also assigned into stay-in or stay-out units in combat, technical, or service areas for the remainder of their service. OCS conscript who is assigned to a stay-out unit will have had been exposed to greater levels of socialization and contact (12 months) than most other conscripts from stay-out units (0 to 3 months). This is not a significant concern, however, because this biases against my hypotheses and affects only a small portion of conscripts.

renovation, or a technical unit may be stay-in because of the isolated geographic location of its duties, despite those being functionally identical to the activities of another (stay-out) technical unit.

Figure 1: Unit assignment process



Thus whether a conscript completes his National Service in a stay-in unit or a stay-out unit is determined on two levels. The first level is health, as most healthy males are likely to be assigned to combat roles, most of which are in stay-in units. The second level is stochastic, as some combat units are stay-out, despite having identical functions to stay-in combat units, while some technical and service units are stay-in, despite fulfilling nearly identical functions to equivalent stay-out units. Taken together, I argue that assignment into a stay-in vs. stay-out unit is orthogonal to identity.

The main objection that might be raised to this is that health may not be totally unrelated to identity. In order for this to bias the assignment process, one of two possibilities must be true. The first is that a particular type of household (in this case, one that is "hyper-ethnic" or "hyper-civic") is more likely to produce an individual who does not pass health screenings. Some health issues, like obesity, are indeed not randomly distributed and may be systematically related to households in which strong identities are inculcated. But obesity does not qualify conscripts for service exemption or immediate assignment into stay-out units; instead, obese conscripts are required to complete a slightly extended version of BMT before unit assignment. Much of the health screening, particularly the initial PES screening, focuses on congenital and non-fitness related health issues, which are highly unlikely to be systematically related to identity. Again, these may be as relatively minor as flat feet or scar tissue in a joint, and in many cases conscripts are not aware of the issue prior to screening. The second possibility is that an individual who does not pass health thresholds, regardless of background, may be inclined to a particular type of identity (hyper-ethnic or hyper-civic), perhaps due to psychological consequences of the health issues. There is no clear theoretical reason to expect a tendency towards one pole of the ethnic – civic continuum over another, so it likewise seems unlikely that this could introduce a systematic

bias. In any case, it is important to keep in mind that the effect of a potential bias would be mitigated by the stochastic element of unit assignment.

Though no data on this is publically available, existing qualitative accounts and extensive interviews support the notion that a balance of ethnic groups, socio-economic groups, and educational attainment levels can be found in both types of units. I create the balance table below using my own proprietary data from 165 randomly selected Singaporean males who have completed National Service. The t-test demonstrates that there are no statistically significant differences between the stay-in and stay-out units on important observables like income, religiosity, educational attainment, or age.[14] A chi square test likewise suggests that the distribution of ethnic groups across unit types is likewise roughly proportional.

Table 1: Balance across unit types

	Income	Religiosity	Educational Attainment	Age	Chinese	Malay	Indian	Total
Stay-in	4.23	1.93	4.59	41.8	54	14	13	82
Stay-out	3.99	2.03	4.37	39.7	52	20	10	83
PR(|T|>|t|)	0.40	0.52	0.50	0.30	0.85	0.30	0.53	

Despite the uniform service length of two to two-and-a-half years, the experience of National Service varies dramatically between stay-in and stay-out units. Conscripts from stay-in units are exposed to substantially greater levels of socialization and contact than are conscripts from stay-out units. Conscripts from stay-in units are immersed in the National Service treatment 24 hours a day for 7 days a week for significant portions of their service period, which fully disrupts and displaces previous patterns of life. Stay-out unit conscripts, by contrast, experience National Service much like a 40 hour per week job that allows them to live at home and maintain many elements of their previous social patterns. As a consequence, the socialization experienced by stay-in unit conscripts is much greater than that experienced by their stay-out unit colleagues. This difference is even more pronounced in terms of contact. Interactions between conscripts from stay-out units approximate those of a typical workplace, where professional and public sphere norms structure behavior. Contact between conscripts in stay-in units is vastly more intimate due to the cohabitation in barracks; conscripts sleep shoulder to shoulder in shared halls, they wake together, shower together, brush teeth together, eat together, train together, and relax together. Stay-out unit conscripts not only lack the additional contact and socialization that their stay-in colleagues receive, but perhaps more importantly, they also remain immersed in the social structures that they grew up in, since the vast majority live at home during their period of service. Put differently, National Service structures both the public and private spheres of stay-in unit conscripts, while stay-out unit conscripts

[14] All data come from the survey conducted in 2012 and 2013. Income is on a scale from 1 to 8 (highest); religiosity is on a scale from 1 to 4 (highest); educational attainment is on a scale of 1 to 9 (highest).

are largely able to maintain their prior private sphere existences. The difference between the stay-in and stay-out experiences, then, is not just about the amount of time together spent as a unit, but also about the quality of the time spent together. Appendix A illustrates this contrast further by depicting a typical 24 hour period for a member of a stay-in combat unit and a stay-out logistics unit.

I rely on variation in treatment intensity between stay-in and stay-out units to measure the effect of National Service on identity, because this approach avoids many of the problems associated with other measurement strategies. The main disadvantage of this research design is that it captures only a portion of the National Service treatment; since I measure the effect of National Service by comparing individuals from stay-in units who received a relatively more intensive treatment of National Service (2 years of *intensive* socialization and contact in a stay-in unit) to individuals from stay-out units who received a relatively less intensive treatment of National Service (3 months or less of intensive socialization and contact during BMT, followed by 21 months of *moderate* socialization and contact while in a stay-out unit), the effect I measure is the difference between an intensive National Service treatment and a moderate National Service treatment, rather than the difference between intensive National Service treatment and no National Service treatment, as is the case in most policy analysis.[15] The consequence of this is two-fold: first, it increases the likelihood that we will find no effect of National Service, even if in actuality there is an effect (type II error). Second, the magnitude of the effect we do capture will be just a portion of the actual effect of National Service.

4. Measurement and Data

Measuring identity also poses several significant challenges, all of which stem from the fact that identity itself is unobservable. The most immediate problem to contend with is social desirability bias (Hatchett and Schuman 1975). This becomes a risk in contexts where substantial effort has been made to socialize a population and shape its identity. The inculcation of 'correct' and socially desirable responses to specific – especially sensitive – situations makes it nearly impossible to discern between responses motivated by social desirability and those motivated by genuine underlying beliefs. We might expect Singapore to be subject to this bias, given that the population has been socialized from an early age to display loyalty to the Singaporean identity and to eschew openly professing potentially divisive identities. Any direct questions that clearly relate to the nation building narrative are likely to reflect socially desirable responses rather than actual sentiments. Even when responses are truthful, in contexts subject to social desirability bias they will often be the observational equivalent of the

[15] Another way to conceptualize this is as follows: if intensive stay-in National Service treatment is a full '10' and no National Service is a '0', the moderate stay-out treatment might be a '4'. The National Service effect we are capturing is the 6 point difference between a stay-in unit (10) and a stay-out unit (4), rather than 10 point difference between a stay-in unit (10) and no National Service (0) – in essence, it is only 60% of the actual treatment. I do not have a way of measuring the full effect of National Service in a manner that would not be subject to substantial bias.

'canned' responses, which limits the inferences that can be made from them. The second challenge derives from the subjective and context specific nature of identity. As argued, the intention of nation building programs like the one in Singapore is typically not to transform *all* facets of identity or obviate ethnic identity entirely, but rather to increase the salience of a civic national identity in the public sphere and in matters concerning the public good. This requires that measurements of identity be clearly contextualized.[16]

I address these issues by measuring identity indirectly through its observable attitudinal and behavioral manifestations. Each of the three main dependent variables I use is situated in a context of public significance and captures the observable manifestations of strong civic or ethnic identities in those contexts. This strategy has several advantages. First, the risk of social desirability bias is significantly mitigated, since the questions are formulated in such a way that they are unlikely to trigger socialized responses. Second, since the questions are contextualized, we can confidently make inferences about the consequences of the responses, ensuring, in short, that any effects we observe from the National Service program have genuine significance to social, political, and economic interactions.

The data for this analysis come from a proprietary survey conducted in Singapore in late 2012 and 2013. The survey has innovative features both in terms of its approach to measurement (it relies on embedded experiments, vignettes, and other indirect measures of identity) and mode of administration (Android tablets, which allow extensive randomization and reduce bias). I use a stratified probability proportional to size (PPS) sampling strategy to ensure a representative sample. Malay and Indian ethnic minorities were slightly oversampled. Based on comparisons with published data on key observables like income, age, language preference, and income, the sample does not have any significant bias. In total, Chinese respondents make up 62% of the sample, Malay 17%, and Indian 17%, with a small remainder identifying as 'other'. The Department of Statistics in Singapore gives the following demographic data for 2012: Chinese (74%), Malay (13%), and Indian (9%). Further details on the survey and data can be found in Appendix B. The survey was complimented by extensive focus group discussions and interviews.

5. Empirical Tests

The empirical tests measure the effect of Singapore's National Service on the strength of ethnic and civic identities. Given the multidimensional and context dependent nature of identity, I employ three dependent

[16] An example illustrates this point well: Imagine that a Chinese respondent in Singapore was directly asked whether she feels more Chinese than Singaporean. How is she to reply? Her answer may very well be contingent on whether the date was August 9th (Singapore's Independence Day) or Chinese New Year, or perhaps on whether the question was posed at the gates of her inter-ethnic workplace or the gates of a Chinese Temple. Moreover, without considering context, we may well make incorrect inferences from the response. A reply of 'more Chinese' at the gates of a temple, for example, tells us nothing of how she might respond in a more public setting or how she would identify when faced with matters of public importance. As a consequence, we would be incorrect to interpret her reply as evidence for an underlying identity that has deleterious consequences in public settings.

variables, each of which test a distinct observable manifestation of identity in a context of public significance. Each test, then, should be seen as unique slice of a broader question: can Singapore's National Service reduce the potential divisiveness of ethnic diversity? The sample for all three tests is limited to males who have completed National Service.

The first dependent variable (DV1) measures *intra-ethnic cohesion*, specifically, the tendency of respondents to close ranks with coethnics in the face of challenges, thereby excluding co-nationals from different ethnic groups. Intra-ethnic cohesion is the result of making the in-group / out-group (*us* and *them*) distinction along ethnic lines, which results not only in social and political fragmentation at aggregate levels, but also in interpersonal bias at individual levels (Tajifel and Turner 1986). I test whether respondents from stay-in units have a lower tendency towards intra-ethnic cohesion than members of stay-out units.

The second dependent variable (DV2) directly measures the relative strength of *ethnic and civic identities*. Respondents are asked to imagine that their neighbor moves away, after which they are presented with a series of potential new neighbors to choose between. One of the choices is between a coethnic family from Malaysia (with which ethnocultural attributes are shared) and a non-coethnic family from Singapore (with which Singaporean civic attributes are shared). The preference for neighbor, then, functions as a proxy measure for the relative strength of ethnic and civic identities. I test whether respondents from stay-in units have a lower propensity to prefer the non-Singaporean coethnic relative to respondents from stay-out units.

The third dependent variable (DV3) uses an embedded experiment and a difference-in-difference design to measure the role that ethnicity plays in *tolerance and perceptions of justice*. This approach is highly resistant to social desirability bias, so it functions as an effective robustness check. The experiment measures ethnic bias in perceptions of tolerance and justice. Specifically, it measures the extent to which respondents punish non-coethnics differently than coethnics for an identical crime. I test whether the level of ethnic bias is lower in respondents from stay-in units than from stay-out units.

DV1: The Effect of National Service on Intra-Ethnic Cohesion

Does Singapore's National Service reduce the propensity of individuals to close ranks with coethnics in public settings with matter of political importance? This type of intra-ethnic cohesion increases the divisive potential of ethnic diversity and presents significant risks when it is an automated and reflexive response. If National Service is effective at strengthening the relative salience of civic identities at the expense of ethnic identities in the public sphere, we should observe a lower tendency to advocate intra-ethnic cohesion among respondents from stay-in units relative to those from stay-out units.

H1: *Respondents who completed National Service in stay-in units have a lower tendency towards intra-ethnic cohesion in matters of public significance than those who completed National Service in stay-out units.*

The dependent variable is based on a survey question that is embedded in a broader set of questions on social cohesion. After answering questions on social cohesion among other social groups, respondents are asked whether they think they would be better off if their own ethnic group also stuck together more frequently.[17] To simplify interpretation, I dichotomize the dependent variable: I code **Ethnic Cohesion** '1' when respondents say that their ethnic group should 'always', 'often', or 'sometimes' stick together "when it comes to politics and other important public issues." I code it '0' when respondents say that their ethnic group should 'rarely' or 'never' stick together. I use two models to test the hypothesis. **Model 1** is a treatment only model. **Model 2** is the treatment plus controls for age, income, educational attainment, and the two minority ethnic groups.[18] **NS stay-in unit** is a dummy denoting a stay-in unit; the reference group is stay-out unit. **Age** spans from 20 to 64 years old, though I code it in 5 year increments to facilitate interpretation. **Income** captures monthly income on a scale of '1' (lowest) to '8' (highest). **Edu** is educational attainment, coded on a scale from '1' (lowest) to '6' (highest). **Malay** and **Indian** are dummy variables coded one for respondents from those groups, leaving the majority Chinese group as the reference group. Given the dichotomous nature of the dependent variable, I use a logit model. An ordered logit model estimates similar effects (not shown), suggesting that the findings are not an artifact of the cut-off point. Table 2 reports marginal effects, which are captured in the accompanying illustration.

$$Y_{ethnic\ cohesion} = \beta_0 + \beta_1 X_{NS\ stay\text{-}in} + \beta_2 X_{age} + \beta_3 X_{income} + \beta_4 X_{edu} + \beta_5 X_{malay} + \beta_6 X_{indian} + \varepsilon$$

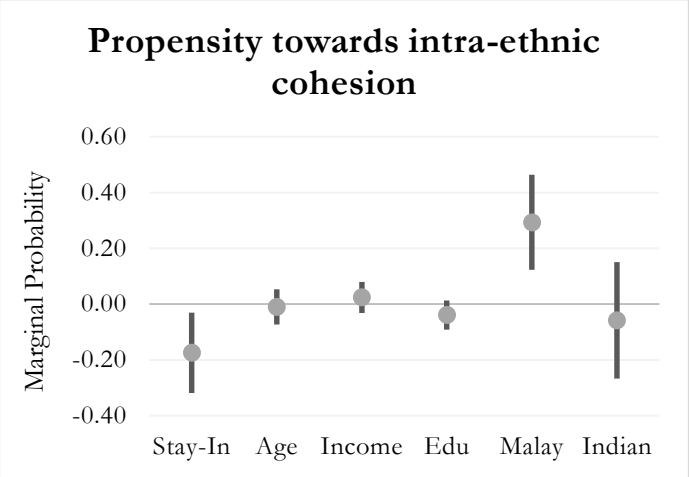
[17] The full text of the question is as follows: *Some people think that they would be better off if their ethnic group stuck together more often when it comes to politics or other important public issues, because the group's interests might be better protected. Do you think that the [Chinese / Malay / Indian / your ethnic group] in Singapore should stick together when it comes to politics and other important issues? A)* No*, they don't need to stick together; B) They rarely need to stick together; C) They should sometimes stick together; D) They should often stick together; E) They should always stick together.* [Note that the question is modified based on the ethnicity of the respondent, so that Chinese respondents see "Chinese" in the question, etc.] Respondents reported approaching the question very reflexively during focus group discussions, which mitigates the concern of social desirability bias. Note, however, that if present, social desirability would bias against findings, which would shrink the size of the measured effect.

[18] Four respondents declined to report their age, which leads to them being dropped from the model with controls for age. Replacing the missing values with mean age has no discernable effect on findings.

Table 2: Effects of unit-type on intra-ethnic cohesion

	(1) Intra-ethnic cohesion	(2) Intra-ethnic cohesion
Stay-in unit	-0.163**	-0.164**
	(0.077)	(0.081)
Age		-0.012
		(.016)
Income		0.010
		(0.026)
Education		-0.055
		(0.052)
Malay		.262**
		(0.100)
Indian		-0.078
		(0.117)
Observations	165	161

Robust standard errors in parentheses
Logit model, marginal effects shown
*** p<0.01, ** p<0.05, * p<0.1



We see from Table 2 that respondents from stay-in units are significantly less likely to advocate intra-ethnic cohesion than are their former colleagues from stay-out units. This result is robust to controls for age, household income, educational attainment, and the main ethnic groups of Singapore. Respondents from stay-in units are 16.3% less likely (model 1) than respondent from stay-out units to advocate intra-ethnic cohesion (16.4% in model 2 with full controls). While it narrowly misses conventional levels of significance, education also appears to reduce the tendency towards ethnic cohesion at a rate of roughly 5.5% per level of attainment. This corresponds to a reduction of roughly 15% when moving from a primary school to university education. Interestingly, Malay respondents are significantly more likely to advocate ethnic cohesion than are respondents from both the majority Chinese group and the Indian minority group. Clearly, National Service unit-type is a strong predictor of attitudes towards intra-ethnic cohesion. We can safely interpret this as evidence that National Service has a substantial impact on shaping the salience of ethnic identity in a theoretically and practically manner.

It is particularly noteworthy that since the average age of respondents was around 40 years old, we are in most cases measuring the effects of National Service several decades after the treatment. This suggests that

the effects are remarkably durable. A series of robustness checks substantiates this assessment.[19] There are several explanations for the durability of the National Service treatment, including the formative age of conscripts at the time of service and the fact that conscripts are liable to be activated for reservist duties up to 40 days per year until age 40 (50 for officers). Interestingly, there is no indication of heterogeneous treatment effects, meaning that National Service appears to have roughly comparable effects on conscripts from each ethnic group.[20]

It is useful to briefly discuss the implications of this finding. What we measure is the difference in outcomes between conscripts who were exposed to an intensive form of National Service (stay-in unit) and those who were exposed to a more moderate form (stay-out unit). While I have no way of accurately estimating the total effect size due to the lack of reliable control group (there are no comparable males who receive no National Service treatment), there are strong indications that the moderate stay-out treatment does not substantially alter identity.[21] This suggests that simply bringing people together – even for 8 hours per day over the course of two years – is not enough to substantially alter their identities in lasting ways. That transformative effect is the result of removing them from their private spheres and immersing them in a new and highly controlled environment.

DV2: The Effect of National Service on Civic Identity

This test is a direct measure of the relative strength of civic national identity. Respondents are asked to imagine that their neighbor moves away and are told that people often have preferences for who they would like to have as neighbors.[22] They are then shown seven pairs of families and asked to express their preference for new neighbors in each pair. To reduce the risk of bias, the first several pairs are not contentious. For example the first choice is a between a Chinese family from Beijing, China, and a Singaporean Chinese family. The next choice is between a European family from England and a family from the Philippines. After several further easy

[19] Substituting generation dummies (20s, 30s, 40s, etc.) for the age variable does not substantially alter the results. Testing for interaction effects using the generation dummies likewise does not suggest substantial decay of treatment effects, though the relatively small sample prevents definitive conclusions.

[20] I test for interaction effects. While the relatively small sample size does not allow me to reach definitive conclusions, there is no indication of heterogeneous treatment effects. The coefficients are also in the expected direction when I restrict the sample to respondents from each ethnic group and then estimate the relationship between unit type and the dependent variable.

[21] Two observations support this assertion. First, few focus group and interview participants from stay-out units described their experience as highly formative. Most suggested a high degree of continuity during their period of service, largely as a result of living at home. Second, the effect size captured by using the difference between unit types is already the strongest predictor of intra-ethnic cohesion. It is hardly plausible that moving from no treatment to moderate (stay-out unit) treatment would have a similar effect size as moving from moderate (stay-out) to intense (stay-in), as this would make the total effect significantly greater than any other factor tested by a large margin.

[22] The full question reads as follows: *"Good relationships with neighbors are an important part of a healthy community. People often have preferences about who they would like to live near, sometimes for practical reasons like shared experiences, language, or culture. Imagine that the neighbor who lives next to you moves out. Who would you prefer to have as your new neighbor?"*

pairs, respondents are given the difficult choice between a coethnic family from Malaysia with whom they likely share ethnocultural attributes like mother tongue, traditional culture, and physical attributes, and a non-coethnic family from Singapore with whom them share civic attributes.[23] If Singapore's National Service is effective at inculcating a strong civic identity that supersedes ethnic identities in the public sphere, we would expect respondents from stay-in units to have a relatively lower preference for the coethnic Malaysian family over the non-coethnic Singaporean family.

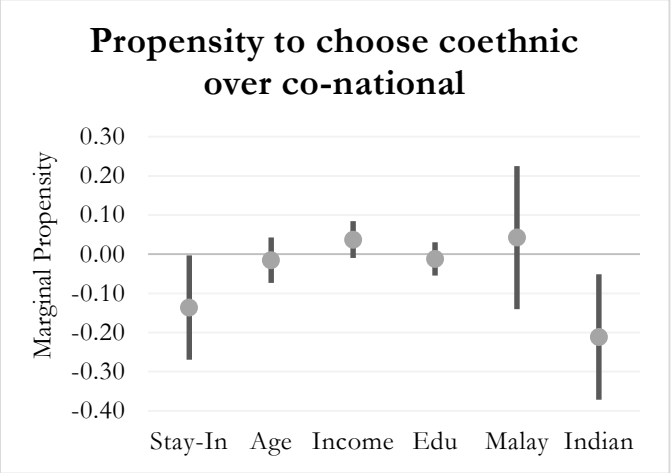
H2: *Respondents who completed National Service in stay-in units are relatively less likely than respondents from stay-out units to prefer a shared ethnic identity over a shared civic identity when choosing new neighbors.*

The dependent variable **Coethnic Preference** is dichotomous, coded '1' when respondents prefer a coethnic family from Malaysia over a non-coethnic family from Singapore. The other variables are identical to those from the previous model. Given the dichotomous nature of the DV, I use a logit model with robust standard errors. Table 3 below displays marginal effects. The accompanying figure illustrates those effects for model two (with full controls).

Table 3: Effect of unit-type on strength of civic identity

	Coethnic Neighbor	Coethnic Neighbor
Stay-in units	-0.129*	-0.143*
	(0.075)	(0.076)
Age		-0.003
		(0.015)
Income		0.030
		(0.023)
Education		-0.008
		(0.045)
Malay		0.073
		(0.104)
Indian		-0.220*
		(0.093)
Observations	165	161

Robust standard errors in parentheses
Logit model, marginal effects shown
*** p<0.01, ** p<0.05, * p<0.1



[23] For example, an Indian respondent would get the choice between an ethnic Indian family from Malaysia and an ethnic Chinese family from Singapore. It should be noted that the ethnic Indian and Chinese communities in the Malay Peninsula (Singapore and Malaysia) have developed cultures that are highly distinct from those in their ancestral homelands. Furthermore, what one could term ethnic Malay, Chinese, and Indian cultures are highly similar between Singapore and Malaysia, with many families split by the political border.

Models 1 and 2 provide strong support for the hypothesis that Singapore's National Service has been effective at increasing the strength of a unifying civic national identity. In the treatment-only model 1, we see that respondents from stay-in units are almost 13% less likely to prefer a coethnic Malaysian over a non-coethnic Singaporean as a neighbor, relative to respondents from stay-out units. Model 2 uses full controls, which slightly increase the magnitude and significance of the **stay-in unit** dummy. Educational attainment plays no clear role I this tendency. While it just misses conventional levels of significance, there appears to be a positive relationship between income levels and propensity to choose coethnic neighbors. It is also interesting to note that respondents from the Indian minority group are far more likely to prefer (by 22%) non-coethnic Singaporean neighbors over coethnic Malaysian neighbors, relative to the majority Chinese or minority Malay ethnic groups. Similar to the first test, there is no indication of significant decay in the effects of National Service.

DV3: The Effect of National Service on Ethnic Bias in Tolerance and Justice

Does Singapore's National Service reduce ethnic bias in the areas of tolerance and justice? Tolerance of difference has widely been recognized as critical to the healthy functioning of liberal society, particularly in the presence of substantial diversity. How do we determine whether Singapore's National Service is effective at inculcating the civic ideal of unbiased tolerance and justice? Given the sensitivity of this topic, direct questions will likely elicit social desirability bias, as few respondents would willingly admit, for example, that they would punish a perpetrator more or less harshly for any given crime depending on the perpetrator's ethnicity. Using experimental methods and randomization allows us to overcome this threat. I embed the following vignette into the survey that describes a white-collar crime in which a wealthy perpetrator has cheated on taxes:

> [NAME], a 46 year old businessman, owns a successful import business that has made him quite wealthy. A recent audit of his company revealed that he has cheated on his taxes in the past. It is estimated that he paid about 50,000 dollars too little in taxes. The court has required [NAME] to repay the taxes and has imposed a fine of 5,000 dollars. How long, if at all, do you think he should be sent to prison?

I then ask respondents to assess the most fair and appropriate punishment for that crime. The vignette explains that the perpetrator was given a fine, but allows respondents to prescribe a prison sentence of between two weeks and ten years, as they deem appropriate. To capture the role of ethnicity in the assessment of justice, I randomize the name of the perpetrator, which acts as an indirect identifier of their ethnicity. In other words, for roughly 1/3rd of respondents, the vignette will describe a perpetrator with a Chinese name, for 1/3rd a Malay name, and for the final 1/3rd an Indian name. This allows us to directly measure the effect of ethnicity on the

perception of justice *for groups* of respondents. Imagine the following example as an illustration: If we gave this question to 300 Chinese respondents, roughly 100 would see the vignette with a Chinese perpetrator, a further 100 with a Malay perpetrator, and the remaining 100 with an Indian perpetrator. If justice was blind, we would expect the average level of punishment prescribed to be the same across all three groups, because the ethnicity of the perpetrator was not a factor in the assessment of the appropriate punishment. Conversely, if ethnicity was highly salient and a decisive factor in the assessment of justice, we would expect to see differences in the average level of punishment prescribed between the three groups. The most likely outcome, as predicted by the Social Identity Theory, is that the negative bias shown towards (out-group) non-coethnics would result in harsher punishments for Malay or Indian perpetrators. I use this method to test whether Singapore's National Service effectively reduces ethnic bias in the assessment of justice.

H3: *Respondents who completed their National Service in stay-in units are less likely to consider ethnicity in their assessment of justice than are respondents from stay-out units.*

The dependent variable is **Punishment**, which is on a 10-point scale ranging from '1' for no prison time to '10' for 10 years prison time. Prison time roughly doubles between each point on the scale. The main explanatory variable is **Coethnic**, which is a dummy that is coded '1' for responses where the respondent and the perpetrator are from the same ethnic group (for example, a Chinese respondent and a Chinese perpetrator). The reference group are those responses where the respondent and the perpetrator are from different ethnic groups (for example, a Malay respondent and an Indian perpetrator). If there is no ethnic bias in the assessment of justice, we would expect the **Coethnic** dummy to be insignificant, since *on average*, responses from coethnic dyads would not be significantly different from non-coethnic dyads. On the other hand, if there is significant ethnic bias in the assessment of justice, we would expect the **Coethnic** dummy to be significant, as *on average* the punishment prescribed for a coethnic perpetrator would be different than for non-coethnic perpetrators. I run two separate models, one for Stay-In unit respondents and the other for Stay-Out unit respondents. Despite the categorical nature of the DV, the relatively large range of choices (1-10) reduces the risk of bias, allowing me to use a standard OLS model with robust standard errors. An ordered logit model produces similar results.

Table 4: Effect of unit-type on bias in tolerance

	(1) Stay-in Punishment	(2) Stay-out Punishment
Coethnic perpetrator	-0.309	-0.876*
	(0.511)	(0.510)
Constant	3.612***	4.104***
	(0.316)	(0.299)
Observations	82	83
R-squared	0.005	0.037

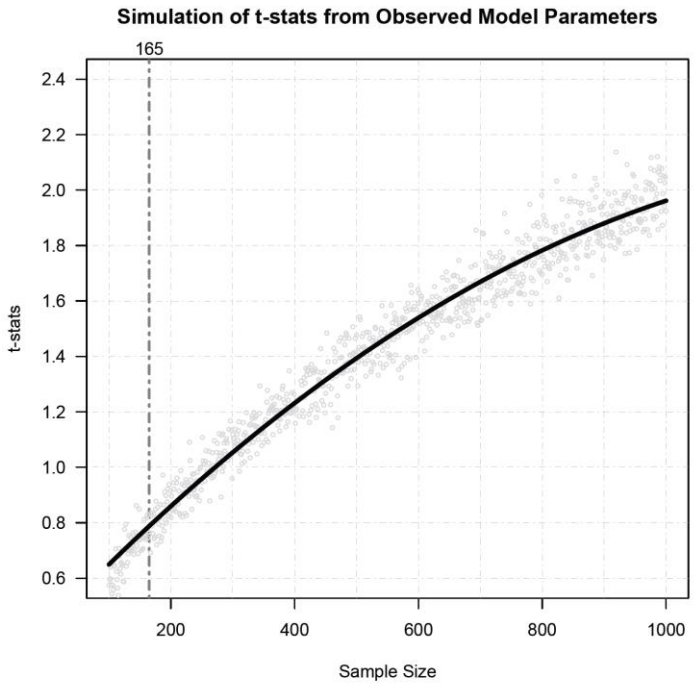
OLS regression, robust standard errors

*** p<0.01, ** p<0.05, * p<0.1

These results are again suggestive of a clear National Service unit-type effect. The **Coethnic** dummy for stay-out unit respondents is negative and statistically significant, meaning that *on average* respondents prescribed a more lenient punishment to coethnic perpetrators (by .87 units, which corresponds to roughly one month) than non-coethnic perpetrators for the identical crime. The **Coethnic** dummy for stay-in unit respondents, on the other hand, is not significant, and while negative, the coefficient is considerably smaller. In other words, we have evidence that, *on average*, there is greater bias in the assessment of justice from stay-out unit respondents than for stay-in unit respondents. Examining predicted effects at the margins provides further insight. Respondents from stay-in units and stay-out units prescribe roughly similar levels of punishment to coethnic perpetrators (3.30 and 3.23) respectively. We see divergence, however, in the predicted effects for non-coethnic perpetrators, where the prescribed punishment levels are 3.61 and 4.10 respectively. In other words, it appears that respondents from both unit types punish coethnics similarly, but stay-out unit respondents punish non-coethnics relatively more harshly than do stay-in unit respondents.

Unlike the first two tests that directly capture attitudinal manifestations of identity, this test utilizes a difference-in-difference design that captures variation in responses across the two unit types to a randomly assigned treatment. As this nuanced approach produces smaller effect sizes, the limited statistical power of the small sample size is more apparent, principally in that the difference between the effects for stay-in and stay-out unit respondents is not statistically significant at conventional levels, despite the strongly suggestive findings. I run a power test using simulations to determine the predicted sample size necessary to reach significance given

the current parameters of the two models.[24] The figure below illustrates the results. The *y-axis* shows the t-statistic of the difference in responses to the treatment between unit types. The *x-axis* captures sample size and demarcates the current sample size of 165 observations. The dots indicate the point estimates from the simulations, to which a line is fitted for ease of interpretation. We see that the model would be adequately powered to detect a difference in effect sizes at the 90% confidence level (t-statistic = 1.645) with approximately 650 responses. Reaching the 95% confidence level (t-statistic = 1.96) would require roughly 1,000 responses, which is not an atypical sample size for social science surveys.



Reaching full confidence in the findings of this test clearly requires additional respondents. Yet given the statistically significant **Coethnic** dummy for stay-out respondents, in conjunction with the findings from the intra-ethnic cohesion (DV1) test and the test of civic vs. ethnic preferences (DV2), this test offers provides

[24] To get a sense of how many additional observations I need to detect a statistically significant interaction effect I ran the following simulation: First, I assumed that the coefficients from the model were the "true" population parameters of interest. I set these values and then used them with two randomly created binary variables, one representing the treatment variable and the other representing the in-group, out-group condition. Since these binary variables are both coded 1 approximately 25% of the time, I took draws from two binomial distributions n times with a probability of .25. I used these random variables and their interaction as the observed data with the "true" model coefficients to generate y data with error. Error for the simulation was drawn from a normally distributed variable with mean 0 and standard deviation of 1.69. The 1.69 value was the spread that generated a similar t-statistic for simulations in which n=165, the number of observations in the original study. I repeated this simulation 1000 times for different numbers of observations such that n varied from 100 to 1000. Not surprisingly, as n increases, it becomes more and more likely that a statistically significant relationship will be found. The plot displays point estimates and the expected t-static based on the 1000 simulations. The expect t-statistic is on the y-axis and the number of observations necessary to achieve that t-statistics based on the "true" coefficients and randomly generated data is on the x-axis.

additional confidence in the assertion that the National Service program has substantial and durable effects on the identities of conscripts.

6. Conclusion

This project investigates whether states can use public policy programs to meaningfully shape the identities of their citizens in ways that reduce the divisive potential of ethnic diversity. Important works central to the social science canon like Weber (1976) and Anderson (1991) assume that this is feasible, yet I add two complicating conditions increasingly relevant to countries around the world. First, can policy meaningfully engineer identities in the relative short term; in other words, can it have a substantial impact over the course of years, rather than decades or centuries? Second, can policy alter identities in complicated social systems without cross-cutting cleavages where ethnic diversity is the result of migration from dissimilar parts of the world? This paper focuses on Singapore's National Service program for insight into those questions. Three sets of empirical tests strongly suggest that the program has been successful at inculcating unifying civic ideals that can supersede ethnic divisions, thereby fundamentally reducing the divisive potential of ethnic diversity.

These results rely on overcoming two important methodological challenges, namely causal identification of the National Service program and meaningfully measuring of ethnic and civic identities. The identification strategy used to enable causal inferences relies on exogenous variation in the intensity of the National Service treatment between two types of units -- specifically, between stay-in units that live on base and receive the full intensity of the program, and stay-out units that live off of base and receive a conscribed treatment intensity. In all three empirical tests, respondents from stay-in units are measurably different from stay-out unit respondents in ways that have clear theoretical and practical importance. The first test demonstrated that respondents from stay-in units have a lower propensity to advocate intra-ethnic cohesion in matters of public importance, which we can think of as a necessary condition for the formation of ethnic divisions. The second test demonstrates the clear effect that the National Service program has had on civic identities; when given the choice of new neighbors, respondents from stay-in units are relatively more likely to prefer a Singaporean family from a different ethnic group (with whom they share civic affiliations) than a Malaysian family from their own ethnic group (with whom they share ethnocultural attributes like mother tongue, religion, and cultural traditions). The third test suggests respondents from stay-in units have less ethnic bias in their perceptions of that tolerance and justice than do their former colleagues from stay-out units.

The evidence presented here strongly suggests that identity can be selectively shaped in the relatively short-term through carefully formulated public policy, even in difficult contexts. This has important consequences for other multiethnic states with similar patterns of ethnic diversity. The magnitude of the change produced by the National Service program is substantial. Given that this is a single program among several

others, it suggests that a coherent and consistent policy approach can affect far-reaching change to the inter-ethnic dynamic of a country. The findings can also be read as support for the contact hypothesis, as well as the ability of civic national identities to subsume ethnic identities. The latter point is particularly relevant to the almost ubiquitous "who are we?" debates occurring throughout Western Europe and North America, as it suggests that reactionary attempts to shift national identities back towards the ethnocultural end of the spectrum will constrain the ability of civic identities to bridge ethnic divides.

The findings also provide insights into the conditions under which identity can be meaningfully and durably engineered. Most importantly, there is strong support that this process functions most effectively when policy creates an immersive environment in which the lines between private and public spheres are blurred. Simply bringing individuals into contact with one another without inducing a clear break with the previous patterns of social interaction appears to be insufficient to engender far-reaching change. This has strong policy implications, as relatively few policy areas beyond national service, education, and housing have the ability to create such environments. Such immersive environments are also likely to require much more political will than parties in most democratic states are able to muster in the current climate where migration-induced diversity is among the most contentious of political issues.

Clearly Singapore is also an exceptional case; its small size, lack of rural hinterland, and powerful state gives it extraordinary penetration into society and a remarkable ability to shape social environments. The efficacy with which it has maintained the 'survival narrative' – which argues that Singapore faces existential threats on multiple fronts and so requires a strong state coupled with certain sacrifices on the part of the populace – also creates unique conditions. For one, fully open political competition and the unconstrained development of civil society have been avoided. This grants the state a greater capacity to dictate policy and shape the national identity, both of which face greater constraints in more liberal systems. Of more immediate concern to this analysis, Singapore has been able to maintain two years of universal male conscription for over four decades, during which time most other countries have either drastically reduced or entirely phased out mandatory military service in response to social and fiscal pressures. Implementing a mandatory National Service program on the scale of Singapore's is likely feasible only in places facing exceptional conditions.[25] This does not mean, however, that more modest programs which maintain the immersive component of Singapore's National Service cannot be implemented to similar, albeit reduced, effect.

This study also leaves several important questions unanswered. Foremost among these is the question of mechanisms. Singapore's National Service impacts identity primarily through intensive socialization and contact. These are closely related mechanisms, but understanding the relative importance of each could greatly

[25] Israel and South Korea, for example, have both sustained National Service programs of roughly comparable length to Singapore. They also both sustain a survival narrative and high level of general military mobilization. A recent referendum in Switzerland showed an overwhelming level of support for the country's mandatory National Service. Interestingly, while the country doesn't face any clear military threat, it maintains a narrative of cultural and economic threat, captured by the *Sonderfall Schweiz*.

facilitate the formulation of more widely implementable programs, both in the area of military service and in areas like education, housing, and labor policy. The empirical tests used in this paper do not gain sufficient traction on the individual mechanisms to effectively disaggregate their effects. That remains an important task for further research. It is also unclear whether the transformative effect of the stay-in unit experience could be achieved in a substantially shorter time frame. Malaysia implemented a National Service program of its own in 2003 (*Program Latihan Khidmat Negara* - PLKN), which selects 20% of 18 year olds by lottery to complete three months of service. Much like with the stay-in units of Singapore's National Service, the PLKN program requires conscripts to live together in a camp, presumably exposing conscripts to the same socialization and contact mechanisms responsible for the transformation of Singapore's conscripts. Yet a preliminary analysis of data from Malaysia does not indicate a measureable difference in salience of identity among respondents who completed the PLKN and those from their age cohorts who were not selected, at least not in their propensity to advocate intra-ethnic cohesion. This contrast in efficacy between programs is interesting, but it is difficult to confidently ascribe responsibility for it to the variation in program length. The content of the socialization and the quality of the contact are likely to be as important as the duration of exposure to them. These variables likewise require study before policy recommendations on transferable elements of the program can be confidently made.

The principle motivation for this study is to add to the nuance with which the interaction between ethnic diversity and politics is studied. Excellent scholarship has demonstrated that relative group size plays a significant role in structuring how ethnic diversity affects social and political outcomes, but this scholarship has also largely neglected the ability of states to further shape the relationship between diversity and outcomes through concerted public policy efforts. Singapore's National Service program demonstrates how state policy can engineer identities in ways that have clear theoretical and practical significance. Specifically, it demonstrates the capacity of socialization and contact mechanisms to shape the microfoundations of ethnic and civic identities in ways that reduce the divisive potential of ethnic heterogeneity.

Alesina, Alberto, Reza Baqir, and William Easterly. 1999. "Public Goods and Ethnic Divisions." *Quarterly Journal of Economics.*

Allport, Gordon. 1954. *The Nature of Prejudice.* Reading: Addison-Wesley.

Anderson, Benedict. 1991. *Imagined Communities: Reflections on the Origins and Spread of Nationalism (second edition).* New York: Verso.

Baldwin, Kate, and John Huber. 2010. "Economic versus Cultural Differences: Forms of Ethnic Diversity and Public Goods Provision." *American Political Science Review* 644-662.

Barr, Michael, and Zlatko Skrbis. 2008. *Constructing Singapore: Elitism, ethnicity, and the nation-building project.* Copenhagen: NIAS Press.

Barry, Brian. 2001. *Culture and Equality: An Egalitarian Critique of Multiculturalism.* Cambridge: Harvard University Press.

Bates, Robert. 1983. "Modernization, Ethnic Competition, and the Rationality of Politics in Contemporary Africa." In *State versus Ethnic Claims: African Policy Dilemmas*, by Donald Rothchild and Victor Olunsorola. Boulder: Westview Press.

Brass, Paul. 2003. *The Production of Hindu-Muslim Violence in Contemporary India.* Seattle: University of Washington Press.

Brewer, MB, and SL Gaertner. 2001. "Strategies for reducing intergroup bias." In *Handbook of Social Psychology: Intergroup Process*, by RJ Brown and SL Gaertner, 451-513. Oxford: Blackwell Science.

Brigham, J., and R. Malpass. 1985. "The role of experience and contact in the recognition of own-and other-race persons." *Journal of Social Issues.*

Brown, David. 2000. *Contemporary Nationalism: Civic, Ethnocultural, and Multicultural Politics.* Routledge.

Brown, G. 2007. "Making ethnic citizens: the politics and practice of education in Malaysia." *International Journal of Educational Development* 39-56.

Brubaker, Rogers. 1996. *Nationalism refrained: Nationhood and the national question in the new Europe.* Cambridge: Cambridge University Press.

Chandra, Kanchan. 2005. "Ethnic Parties and Democratic Stability." *Perspectives on Politics.*

—. 2004. *Why Ethnic Parties Succeed: Patronage and Head Counts in India.* Cambridge: Cambridge University Press.

Chang, David. 1968. "Nation-Building in Singapore." *Asian Survey.*

Chua, Beng Huat. 2006. "Singapore's Routes of Modernity." *Theory, Culture & Society.*

Clutterbuck, R. 1985. *Conflict and Violence in Singapore and Malaysia 1948-1983.* Singapore: Graham Brash.

Collier, P., V. Williot, H. Hegre, A. Howeffle, M. Reynal-Querol, and M. Sambanis. 2003. *Breaking the Conflict Trap: Civil War and Development Policy.* Oxford: Oxford University Press.

Conner, Walker. 1994. *Ethnonationalism.* Princeton: Princeton University Press.

Doner, R.F., B.K. Ritchie, and D. Slater. 2005. "Systemic vulnerability and the origins of developmental states: Northeast and Southeast Asia in comparative perspective." *International Organization.*

Dovidio, J. F., A. Eller, and M. Hewstone. 2011. "Improving intergroup relations through direct, extended and other forms of indirect contact." *Group Processes & Intergroup Relations.*

Dunning, Thad. 2010. "Do Quotas Promote Ethnic Solidarity? Field and Natural Experimental Evidence from India." *Unpublished manuscript, Yale University.*

Dunning, Thad, and Lauren Harrison. 2010. "Cross-cutting Cleavages and Ethnic Voting: An Experimental Study of Cousinage in Mali." *American Political Science Review.*

Easterly, W., and R. Levine. 1997. "Africa's Growth Tragedy: Policies and Ethnic Divisions." *Quarterly Journal of Economics.*

Eifert, Benn, Ted Miguel, and Daniel Posner. 2010. "Political Competition and Ethnic Identification in Africa." *American Journal of Political Science.*

Fearon, James. 2003. "Ethnic Structure and Cultural Diversity." *Journal of Economic Growth.*

Fearon, James, and David Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97(1), 75-90.

Fearon, James, and David Laitin. 1996. "Explaining Interethnic Cooperation." *American Political Science Review.*

Fichte, Johann-Gottlieb. 1820. *Die Staatslehre oder über das Verhältniß des Urstaates tum Vernunftreiche.* G. Riemer.

Geertz, Clifford. 1963. *Nations and Nationalism.* New York: Free Press.

Gellner, Ernest. 1983. *Nations and Nationalism.* Ithaca: Cornell University Press.

Habyarimana, J., M. Humphreys, D. Posner, and J. Weinstein. 2007b. "Placing and Passing: Evidence from Uganda on Ethnic Identification and Ethnic Passing." *Annual Meeting of the American Political Science Association.*

Habyarimana, J., M. Humphreys, D. Posner, and J. Weinstein. 2007. "Why Does Ethnic Diversity Undermine Public Goods Provision?" *American Political Science Review.*

Hatchett, S., and H. Schuman. 1975. "White Respondents and Race-of-Interviewer Effects." *Public Opinion Quarterly.*

HDB. 2008. *Housing Development Board Household Survey.* Singapore: Housing Development Board.

Herder, J.G. von. 1969. *JG Herder on social and political culture.* Cambridge: Cambridge University Press.

Hirschman, Charles. 1987. "The meaning and measurement of ethnicity in Malaysia: and analysis of census classifications." *The Journal of Asian Studies* 555-582.

Hornsey, M, and M Hogg. 2000. "Assimilation and diversity: an integrative model of subgroup relations." *Personality and Social Psychology Review* 143-56.

Horowitz, Donald. 1985. *Ethnic Groups in Conflict.* Berkeley: University of California Press.

Huxley, Tim. 2000. *Defending the Lion City: The Armed Forces of Singapore.* Allen & Unwin.

Kant, Immanuel. 1797. *The Metaphysics of Morals.*

Keyes, Charles. 1971. "Buddhism and National Integration in Thailand." *The Journal of Asian Studies* 551-567.

Koopmans, R., P. Statham, M. Giugni, and F. Passy. 2005. *Contested citizenship: Immigration and cultural diversity in Europe.* Minneapolis: University of Minnesota Press.

Krebs, Ronald. 2004. "A School for the Nation? How Military Service Does Not Build Nations, and How It Might." *International Security.*

Kurzban, R., J. Tooby, and L. Cosmides. 2001. "Can race be erased? Coalitional computation and social categorization." National Academy of Sciences.

Kymlicka, Will. 1995. *Multicultural Citizenship: A Liberal Theory of Minority Rights.* Oxford: Oxford University Press.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny. 1999. "The Quality of Government." *Journal of Law, Economics and Organization.*

Laitin, David. 1986. *Hegemony and Culture: Politics and Religious Change Among the Yoruba.* Chicago: University of Chicago Press.

—. 1998. *Identity in Formation: The Russian-Speaking Populations in the Near Abroad.* Ithaca: Cornell University Press.

Laitin, David, and Daniel Posner. 2001. "The Implications of Constructivism for Constructing Ethnic Fractionalization Indexes." *APSA-CP 12.*

Lijphart, Arend. 1977. *Democracies in Plural Societies: A Comparative Exploration.* New Haven: Yale University Press.

Lovell, John, and Judith Hicks-Stiehm. 1989. "Military Service and Political Socialization." In *Political Learning in Adulthood*, by Roberta Sigel. Chicago: Chicago University Press.

Meinecke, Friedrich. 1962. *Weltbürgertum und Nationalstaat, Werke.* München.

MID. 1967. *National Service in Singapore.* Singapore: Printing Press, Ministry of Interior and Defense .

Miguel, Edward. 2004. "Tribe or Nation? Nation Building and Public Goods in Kenya vs. Tanzania." *World Politics* 327-62.

Mutalib, Hussin. 2012. "Singapore's Ethnic Relations' Scorecard." *Journal of Developing Societies.*

Ooi, Tan, and Soi. 2002. *The study of ethnicity, national identity and rootedness in Singapore.* Singapore: Institute of Policy Studies.

Pettigrew, Thomas. 1998. "Intergroup Contact Theory." *Annual Review of Psychology.*

Phil, Roeder., and Donald Rothchild. 2005. *Sustainable Peace: Power and Democracy after Civil Wars.* Ithaca: Cornell University Press.

Posen, Barry. 1993. "Nationalism, the Mass Army, and Military Power." *International Security.*

Posner, Daniel. 2004a. "The Political Salience of Cultural Difference: Why Chewas and Tumbukas are Allies in Zambia and Adversaries in Malawi." *American Political Science Review.*

Posner, Daniel. 2004b. "Measuring Ethnic Fractionalization in Africa." *American Journal of Political Science.*

Quah, Jon. 1977. "Singapore: Towards a National Identity." In *Southeast Asian Affairs*, by ISEAS. Singapore: Institute of Southeast Asian Studies.

Rabushka, A., and K. Shepsle. 1972. *Politics in Plural Societies.* Columbus: Merrill.

Rawls, John. 1971. *A Theory of Justice.* Cambridge: Belknap Press.

Robinson, Amanda. 2013. "National versus Ethnic Identic Identification in Africa: Modernization, Colonial Legacy, and the Origins of Territorial Nationalism." *Working Paper.*

Samii, Cyrun. 2013. "Perils or Promise of Ethnic Integration? Evidence from a Hard Case in Burundi." *AMerican Political Science Review.*

Schoenwaelder. 2010. "Germany: integration and pluralism in a country self-conscious of immigration." In *Multiculturalism Backlash*, by Vertovec and Wessendorf.

Smith, Anthony. 1991. *National Identities.* Harmondsworth: Penguin.

—. 1986. *The Ethnic Origins of National Identities.* Blackwell Publishing.

Statistics, Singapore Department of. 2012. *Population Trends.* Singapore: Singapore Department of Statistics.

Tajifel, H. 1982. "Social Psychology of Intergroup Relations." *Annual Review of Psychology.*

Tajifel, Henri, and John Turner. 1986. "The Social Identity Theory of Intergroup Behavior." In *Psychology of Intergroup Relations*, by S. Worchel and W. Austins. Chicago: Nelson-Hall.

Taylor, Charles. 1994. *Multiculturalism: Examining the Politics of Recognition.* Princeton: Princeton University Press.

Varshney, Ashutosh. 2002. *Ethnic Conflict and Civic Life.* New Haven: Yale University Press.

Weber, Eugene. 1976. *Peasants into Frenchmen.* Stanford: Stanford University Press.

Appendix A:

Below is a stylized account of a typical service day for typical stay-in and stay-out unit conscripts (though as previously discussed, there is immense variation in experiences). Beyond the obvious difference in time spent together, a few things are noteworthy. First is the extent to which the stay-out unit schedule allows for maintenance of previous patterns of social interaction within the home and established social circles. Second is the qualitative differences in joint tasks between the unit types. Whether informal like showering and sleeping together or formal like joint field exercises and physical drills, many of the tasks experienced in stay-in unit have a far greater capacity to bond conscripts together and socialize in them a common identity than do the more pedestrian administrative and individual tasks performed within typical stay-out units.

Hour	**Stay-in**	**Stay-out**
00:00 – 00:59	Sleep (base)	Sleep (home)
01:00 – 01:59	Sleep (base)	Sleep (home)
02:00 – 02:59	Sleep (base)	Sleep (home)
03:00 – 03:59	Sleep (base)	Sleep (home)
04:00 – 04:59	Sleep (base)	Sleep (home)
05:00 – 05:59	Sleep (base)	Sleep (home)
06:00 – 06:59	Morning drills	Sleep (home)
07:00 – 07:59	Shower, joint breakfast	Shower, breakfast (home)
08:00 – 08:59	Joint free time	Commute to base
09:00 – 09:59	Group field exercises	Office work
10:00 – 10:59	Group field exercises	Office work
11:00 – 11:59	Group field exercises	Office work
12:00 – 12:59	Joint lunch	Joint lunch
13:00 – 13:59	Joint free time	Office work
14:00 – 14:59	Partnered weapons training	Office work
15:00 – 15:59	Partnered weapons training	Office work
16:00 – 16:59	Sports and recreation	Office work
17:00 – 17:59	Sports and recreation	Commute to home
18:00 – 18:59	Shower, joint dinner	Free time (home)
19:00 – 19:59	National education class	Dinner (home)
20:00 – 20:59	Joint free time	Free time (home)
21:00 – 21:59	Joint free time	Free time (home)
22:00 – 22:59	Joint free time	Free time (home)
23:00 – 23:59	Sleep (base)	Sleep (home)

Appendix B:

Data collection for this project and a parallel project in Malaysia began in December 2012 and was completed in late 2013. Surveys were administered primarily using Android tablets with paper surveys used as a backup when technical issues arose. The data from this paper were collected using a probability proportional to size (PPS) sampling strategy. The structure of housing in Singapore facilitates this approach. Over 80% of the population live in public housing (known as HDBs), which are divided into districts. Key demographic indicators for each district are available from the Housing Development Board, which manages the housing program (HDB 2008). These indicators allow stratification of HDB districts into four strata based on the average age and income of households in each district, which vary substantially based on when the districts were developed. Private housing constitutes a fifth stratum. I assigned a probability of selection to each stratum based on its proportion of Singapore's total number of households. Before data collection outings I used a random number generator to select a stratum, then again to select a district within that stratum (using PPS), and then a final time to select a block within that district. The team of enumerators then went door to door to administer the survey using Android tablets connected to the internet via local hotspots created by 3G modems and battery-powered routers or smartphones. Data were recorded for both successful and failed interviews.

Whenever possible, data collection teams consisted of five members, of which three were Chinese who speak Mandarin and some Chinese dialect, one was a Malay-speaking Malay, and one was a Tamil-speaking Indian. Where the identity of the household could be discerned from external features, a coethnic enumerator attempted to make contact. When it could not be discerned, the next available enumerator attempted contact. In total, enumerator and respondent were coethnics in roughly 60% of surveys completed. The survey was available in English, Mandarin, and Malay.[26] Enumerators are undergraduate students from local universities. The survey includes a wide range of questions and embedded experiments on social, economic, and political issues, and takes on average 34 minutes (sd = 11) to complete. While over 460 responses were collected, only about 1/3 of respondents completed National Service. This is due to the exclusion of females, citizen males who turned 18 before the introduction of National Service in 1967, and current citizens who became naturalized after the age of 18.

The response rate for the survey was 40% when an enumerator was able to make contact with a household, with some variation across ethnic groups (Chinese 38%; Malay 45%; Indian 65%). I test for interviewer effects in each of the models in the empirical analysis by using a dummy for non-coethnic enumerator / respondent dyads (not shown). Those responses are not discernibly different from coethnic enumerator / respondent combinations, so I conclude that the combination of enumerator / respondent

[26] The limited number of Tamil speakers and generally high English language proficiency within the Indian community limited the utility of a Tamil translation.

ethnicity does not bias responses. This is likely due to the fact that the survey is self-contained on the tablet, so enumerators typically do not see responses. This should also provide further protection against social desirability bias. The combination of enumerator and respondent ethnicity does, however, affect the probability that a respondent will participate in the project. This effect is most pronounced among Chinese, where the participation rate is 53% when contacted by a Chinese enumerator, but only 19% when contacted by an Indian or Malay enumerator. Among Malays, the participation rate is 62% (coethnic enumerator) and 43% (non-coethnic enumerator). Interestingly, among Indians this effect is nearly indiscernible (67% and 63%). Some of this may be attributable to language ability, since there are fewer who are not proficient in English in the Indian community than in the Chinese and Malay communities. Item non-response is low due to the structure of the survey on the tablet, as respondents reported feeling inclined to enter a response before advancing to the next question / page. Very few respondents (under 3%) aborted the survey after beginning it.