

THE CROSSING EXPERIENCE: UNAUTHORIZED MIGRATION ALONG THE
ARIZONA-SONORA BORDER

by

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DEDICATION

I dedicate this work to my parents, brothers, and grandparents. To all my relations.

In loving memory of my teacher, mentor, and friend, Dr. Stephen Casanova (1949-2009).

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ABSTRACT

The present study utilizes survey data (n = 415) collected in the *Migrant Border Crossing Study* from repatriated Mexican migrants to examine three important questions regarding unauthorized migration attempts through southern Arizona. First, what factors explicate migrants' modes of crossing? Second, do *coyote* fees vary among people who rely on smuggling services to cross the border? If so, what accounts for this variation? Third, what factors shape encounters with *bajadores* while traversing the desert? The present analyses expand on previous studies examining the unauthorized crossing in multiple ways. For instance, I empirically test the role of a "culture of migration" in explaining modes of crossing, coyote fees, and bajador encounters. I also differentiate between two main types of coyotes: "border business" and "interior." I then examine whether crossing with a coyote mediates the risk of encountering bajadores during the journey. Overall, there are important differences in crossing modes and coyote fees. Women are more likely to travel with both coyote types, while the opposite is true for more experienced migrants. Older migrants and people who cross during summer months are less likely to travel with an "interior" coyote. The strongest predictor of higher smuggling fees is the region of a person's U.S. destination. Higher coyote fees are also associated with immigrants' higher educational attainment, being married, being the sole economic provider for one's household, and higher household income. More experienced migrants, and those crossing in larger groups or during the summer also pay higher fees, however fees do not vary by gender, age, or social capital. These findings are somewhat consistent with the extant literature on human capital and risk tolerance/aversion, but run

counter to the vast migration literature emphasizing the importance of social capital in the migration process. Finally, the risk of encountering bajadores is not higher for males, young adults, the less educated, and the more impoverished, which contradicts extant findings in the victimology literature. With the exception of crossing corridor and time spent in the desert, no other factors increase the risk of encountering bandits more than traveling with a coyote. Implications and possible future research are discussed.

CHAPTER 1: INTRODUCTION

The sociological study of immigration is by no means a new area of academic inquiry. A vast body of scholarship exists on Mexican migration to the United States alone dating back to Manuel Gamio's (1930; 1931) research on Mexican labor migration and Julian Samora's (1971) seminal work on the unauthorized crossing experience. Although volumes of qualitative and quantitative research on Mexican migration in general have been produced over the past half-century, the core of scholarly work on the unauthorized crossing experience itself has come from two notable projects: the Mexican Migration Project (MMP) and the Mexican Migration Field Research Program (MMFRP); both of these projects are discussed below. The academic insight on the migration process gained from these projects is invaluable and extensive. Nevertheless data collected in these projects are not without limitation. The present study is an effort to build on the current understanding of the unauthorized crossing experience and bridge some of the gaps in the literature. Data used in this dissertation come from primary surveys collected from randomly selected, recently repatriated Mexican migrants and represent their experiences crossing the Arizona-Sonora border—a region that has become the single most important area for unauthorized migration in recent decades.

I begin this introduction by briefly describing border enforcement efforts that have redistributed unauthorized migration flows into southern Arizona as well as some of the consequences resulting from these tactics. I follow by describing the two studies that have driven most quantitative scholarly work on unauthorized migration. I also highlight the limitations of these studies and mention how the *Migrant Border Crossing Study*

(MBCS) is able to overcome these issues and provide valuable insights into the crossing experience along the Arizona-Sonora border. I then discuss how risk and uncertainty have been theorized and examined in the extant migration literature. I conclude by highlighting how migration scholars have drawn on concepts such as human capital, social capital, and a “culture of migration” to better understand how migration is at its core a social process.

Southwest Border Enforcement Efforts and its Consequences

During the early 1990s, a great deal of political pressure was placed on the Clinton Administration to move immigration enforcement away from interior work sites to the Southwestern border. In addition, the 1986 Immigration Reform and Control Act (IRCA) regularized the immigration status of many immigrants, allowing many previously undocumented Latino/a immigrants or families with mixed immigration statuses to be much more visible in public spaces without fear of apprehension (Massey, Durand, and Malone 2002). This resulted in increased public expressions of nativist sentiment and a sense of “moral panic” (Garland 1993) among some residents in Southwestern states. These residents began to pressure policy makers to “do something” about the “immigration problem” in these areas (Massey et al. 2002). This political pressure led to border enforcement initiatives such as Operation Hold the Line (in El Paso, TX), Operation Gatekeeper (near San Diego, CA), Operation Safeguard (near Tucson, AZ), and Operation Rio Grande (in South Texas) (Dunn 1996; Andreas 1998; 2000).

U.S. border enforcement efforts since the early 1990s have made southern Arizona the most important geographical area in regards to unauthorized immigration. Increased enforcement levels in historical urban border crossing locations (e.g., San Diego, Nogales, El Paso) have not deterred unauthorized migration, but rather have changed migration routes and forced migrants to traverse remote areas along the border to avoid apprehension, most notably into southern Arizona (Andreas 1998; Dávila, Pagán, and Soydemir 2002; Eschbach et al. 1999; Cornelius 2001; 2005; Rubio-Goldsmith et al. 2006). As an example, during the early 1990s, roughly one in every fifteen Border Patrol apprehensions occurred in the Tucson Sector. Since 2000, on average, approximately one in every 2.7 apprehensions has occurred in the same sector (U.S. Citizen and Immigration Services 2013), further supporting the assertion that migration flows are being funneled into southern Arizona.

Among the documented consequences of this funneling has been the surge in migrant deaths not only in the Tucson Sector, but in other areas along the border as well (Cornelius 2001; Rubio-Goldsmith et al. 2006; Cornelius 2005; Eschbach et al. 1999). Another major but less understood consequence of increased enforcement has been the heightened competition between drug cartels, *coyotes*, and *bajadores* (border bandits) for control and access to less enforced crossing corridors (Felbab-Brown 2009). This heightened competition has contributed to migrants' increased vulnerability as they attempt to make the trek to enter the United States.

One way unauthorized migrants attempt to reduce the physical risks associated with the crossing, as well as the probability of apprehension, is to hire a coyote to guide

them across the border (Singer and Massey 1998; Donato and Patterson 2004; Fuentes, L'Esperance, Perez, and White 2007; Kimball, Acosta, and Dames 2007; Donato, Wagner, and Patterson 2008; Hagan 2008; Parks, Mendoza, and Garcia Santos 2009; Spener 2009; Hicken, Cohen, and Narvaez 2010). Given that southern Arizona has become the most important corridor for clandestine crossings in recent years, a systematic quantitative analysis of the crossing experience in this area is warranted. Nevertheless, due to data limitations the extant quantitative data sources on unauthorized migration are unable to speak to the crossing experience in southern Arizona during an era of increased border enforcement. The following section describes the two most important data sources on the unauthorized crossing experience and some of their limitations. I then briefly describe how the MBCS is able to address these shortcomings and contribute to the scholarly understanding of the crossing experience in what has become the most important region along the border for unauthorized migration.

Critical Studies on the Crossing Experience

The majority of the existing quantitative scholarly work on the unauthorized crossing experience comes from either Princeton University's *Mexican Migration Project* (MMP) which was originally established by sociologist Douglas S. Massey, or the *Mexican Migration Field Research Program* (MMFRP) founded by Wayne Cornelius and currently based out of the Center for Comparative Immigration Studies at the University of California—San Diego.

The Mexican Migration Project (MMP) is regarded as perhaps the single most influential social scientific study on unauthorized migration flows between the United States and Mexico. The MMP utilizes a unique methodological approach described as an ethnosurvey, which consists of semi-structured interviews that allow researchers to gather qualitative and quantitative data. MMP researchers have surveyed legal and unauthorized migrants about their lifetime migration experience to the United States, as well as non-migrants in 134 migrant sending-communities in twenty-two states across Mexico. MMP data have contributed in immeasurable ways to the advancement of the scholarly understanding of unauthorized migration between the United States and Mexico ranging, from the initial decision to migrate to the structural and economic integration of immigrants into receiving communities. The MMP has also contributed to scholars' understanding of modes of crossing and fees paid to smugglers—an area of research to which I contribute in this dissertation.

The MMFRP has provided excellent quantitative and qualitative data on the crossing experience from sending-communities in the Mexican states of Jalisco, Zacatecas, Yucatán, and Oaxaca, as well as various receiving communities across the United States over several decades. This research has most notably provided detailed case-studies of specific communities and allowed researchers to quantitatively examine the reasons people migrate—legally and in an unauthorized manner—from these communities over various time periods. The MMFRP also has helped scholars understand how the migration process in each community has been affected by increased border enforcement and the recent U.S. economic recession (Cornelius and Lewis 2007;

Cornelius et al 2010). A substantial amount of knowledge on coyote use and fees has also been generated by the MMFRP.

The MMP and MMFRP are unequivocally the most important and influential datasets driving social scientific research on Mexican migration to the United States. Yet these data sources are not without their limitations. While both studies are only able to generalize to the communities in which surveys were carried out, one advantage of MMP is that it contains information on 7,423 household heads in 134 communities throughout Mexico. On the other hand, the MMFRP is limited to sending-communities in the Mexican states of Jalisco, Zacatecas, Yucatán, and Oaxaca, therefore it is difficult to make generalizations on the crossing experience based on MMFRP data. The MMP also has its limitations. The majority of MMP data were collected *before* increased border enforcement efforts redistributed migration flows into southern Arizona. A closer examination of the MMP's 134 community MIGFILE only yields 26 respondents who indicated they had attempted a border crossing between 2007 and 2009 (the MBCS time frame). Among these cases, only seven respondents indicated that at least one of these attempts occurred through the Sonora-Arizona border. In addition, as a consequence of its methodological design of only surveying "heads of household," the MMP has also been criticized as having under-examined the role of gender in the unauthorized migration process (Donato and Patterson 2004).

Unauthorized migration is a dynamic process constantly shifting with various extraneous factors. Data sources generated mostly before immigration enforcement efforts, such as the MMP, and community-specific case studies and surveys, as those in

the MMFRP, do not provide data that are sufficiently sound to examine the contemporary crossing experience in southern Arizona. Findings based on these studies, which have highlighted supply-side social processes shaping unauthorized migration attempts, cannot be assumed to hold in the current era. Drawing on a systematic random sample of repatriated migrants from diverse backgrounds, the MBCS is able to generalize to the unauthorized crossing experience in southern Arizona and test whether theories explicating modes of crossing still hold, or if enforcement efforts have transformed the unauthorized crossing experience from a social process based on informal network ties and kinship, to a more systematic informal market-based phenomenon.

Previous studies on unauthorized migration have noted that reducing risk during the journey is a central concern for migrants and their families. However, the way risk has been theorized in the migration scholarship has varied substantially. The following section provides a brief overview on the role of risk and uncertainty in the migration process, and helps contextualize the theoretical approach driving the analyses presented in this dissertation. I then describe how various forms of capital have been thought to reduce or generate risk during unauthorized crossings.

Managing Risk and Uncertainty during Unauthorized Crossing Attempts

Scholars have paid a substantial amount of attention to the role of risk and uncertainty in the migration process for “multi-scalar” and “interrelated” entities, including the individual, household, community, nation-state and world (Williams and Baláža 2011, 167). Williams and Baláža (2011) note the migration process can be seen

as being “informed by, generating, and ameliorating risk and uncertainty” (167). For example, at the individual level, the decision to undertake an unauthorized migration attempt can itself be perceived as risky and filled with uncertainty. The risk of physical injury and apprehension are real concerns during the actual journey, while the uncertainty of finding adequate housing and employment may also linger in one’s mind (Williams and Baláža 2011). On the other hand, the decision to *not* migrate and stay in one’s community of origin could prove just as economically, socially, and physically risky depending on one’s social context. At the household level, some families attempt to reduce financial risk and uncertainty by diversifying the labor of their members in non-competing markets abroad (Massey et al 1993; Massey, Durand, and Malone 2002; Williams and Baláža 2011). By making the decision to migrate, whether at the individual, household, or community level, migrants become exposed to a host of new risks and uncertainties in the process. It is precisely the risk-generating nature of the crossing experience, and how migrants and their family manage these risks that is of greatest interest in the present study.

Although scholars have focused a great deal on risk in the migration process, Williams and Baláža assert that “there is little explicit theorization of the role/risk or uncertainty” in the migration literature, let alone a “single comprehensive theoretical framework for risk and uncertainty” (2011, 168). This shortcoming can be attributed to the different ways that risk and uncertainty have been conceptualized across social science disciplines, most notably in economics and sociology (Williams and Baláža 2011, 167-173). It is beyond the scope of this article to attempt to arrive at a universal or

comprehensive theoretical framework of risk in the migration process. Rather, my aim is to draw on how previous studies in economics, sociology, and anthropology have examined risk in the migration process to help explicate individual level variation in coyote use, fees paid to smugglers, and “chance” encounters with stick-up crews.

Economics-based theories of migration tend to “focus on risk rather than on uncertainty, assuming that risks are real, known, and measurable” and can be used to determine the probability of an event occurring (Williams and Baláža 2011, 169). Significant contributions to the understanding of risk in the migration process in this scholarly tradition come from examining the relationship between human capital and risk tolerance/aversion at the individual-level as well as the way migration is used as a risk-reduction strategy through the diversification of people’s labor at the household-level—a tradition that has been described as the “new economics of migration” (Stark and Bloom 1985; Massey et al 1993; Massey, Durand, and Malone 2002; Williams and Baláža 2011).

On the other hand, “sociological theories provide more collectivist, and more social constructionist approaches” to the understanding of risk in the migration process (Williams and Baláža 2011, 172). A sociological approach has much to offer in terms of explicating individual level differences in the way risk is perceived and managed. Williams and Baláža (2011) quote Zinn and Taylor-Gooby (2006, 36) who emphasize that “...the individual’s perception and response to risk can only be understood against the background of their embeddedness in a socio-cultural background and identity as a member of a social group, rather than through individual cognition” (172). Both

approaches can help scholars understand the risk generating nature of the crossing experience, and how migrants and their family manage these risks—notably through the use of smuggling networks.

As noted, managing and reducing risk is an important part of the unauthorized crossing journey for individuals, families, and communities (Singer and Massey 1998; Donato and Patterson 2004; Donato, Wagner, and Patterson 2008; Hagan 2008; O’Leary 2009). The economics-oriented human capital and risk tolerance/aversion perspectives and the sociological constructionist approach each provide valuable insights into how risks relating to the unauthorized crossing are perceived and managed, with the sociological perspective providing an important base for understanding notable gender and community level variations in modes and manners of crossing. Migrants, like all people, are members of collectivities and seldom make decisions in a vacuum or without the input of others, nor without being influenced by cultural norms, values, customs, and expectations.

However, crossing the border without documentation in an era of increased enforcement presents series of very real dangers such as apprehension, victimization, exploitation, injury, abandonment, and death. These events can be observed, measured, and quantified, and theoretically be assigned a probability of occurring. In other words, although the way risk is perceived, understood, and managed may be culturally bound or socially determined, the risks migrants face while crossing the border are real and measureable. Finding common ground between both traditions can offer insight on how

migrants perceive and manage risks during their undocumented journeys across the border.

Increased border enforcement efforts have redirected unauthorized migration flows into remotes areas along the border, such as desert areas west of Nogales, Sonora, where the risk of succumbing to the elements is substantially higher compared to other areas along the border. Since 2000, more than 2,100 people have died crossing the border through southern Arizona alone (Martinez and Reineke n.d.). Although it may be theoretically possible to estimate a probability of death, doing so proves challenging due to the unknown number of migrants crossing the border as well as the unknown number of deaths occurring on annual basis. Nevertheless, scholars and journalists have attempted to estimate migrant death rates by utilizing U.S. Border Patrol apprehensions as a proxy for migration flow and the recovered remains of unauthorized border crosser as a proxy for deaths. Cornelius (2005) found that "...the probability of dying versus that of being apprehended on the border nearly doubled over a seven-year period, from 1 death per 5,812 apprehensions in 1998 to 1 death per 3,109 apprehensions in 2004 (Cornelius 2005, 783 as quoted in Parks, Lozada, Mendoza, and Garcia Santos 2009, 47).

Apprehension data from the Border Patrol's Tucson Sector and records on undocumented border crosser deaths at the Pima County Office of the Medical Examiner point to a similar trend. In 2004 the migrant death rate in southern Arizona was approximately 34 deaths per 100,000 apprehensions; by 2012 that figure increased to nearly 143 deaths per 100,000 apprehensions (Martinez, Reineke, Rubio-Goldsmith, Anderson, Hess, and Parks, forthcoming). Not only is the risk of death while crossing the

border very real, but it has increased every year with heightened border enforcement measures. Migrants may attempt to lower the risk of death is by using the services of human smugglers to cross the border and by paying higher fees for what are perceived to be safer modes of crossing—practices that may vary according to individual and community level factors.

Death is not the only risk people face while crossing the border. An increase in the number of both U.S. Customs and Border Protection and U.S. Border Patrol agents in the southwest, as well as new technologies and equipment such as cameras, sensors, motion detectors, unmanned drones, helicopters, and the recent Vehicle and Cargo Inspection Systems (VACIS) which utilize gamma rays to detect people or contraband in vehicle compartments, have all increased the risk of apprehension at both official ports of entry and in remote areas. Previous studies have noted that “as the border has become more heavily patrolled than at any previous time in U.S. history, *polleros* [human smugglers] have become essential to a successful and relatively safe crossing” (Fuentes and Garcia 2009, 79-102 as cited by Hicken, Cohen, and Narvaez 2010, 62-63). And “although hiring a coyote is expensive, many undocumented migrants use them in hopes of reducing the risk of apprehension by the Border Patrol” (Fuentes, L’Esperance, Perez, and White 2007, 62). Others have noted that people “understand that hiring a coyote is illegal,” but “many view it as necessary to evade apprehension and to mitigate the danger of crossing clandestinely” (Kimball, Acosta, and Rebecca Dames 2007, 99).

Some studies have stated that crossing with a coyote increases one’s rate of a successful crossing (Fuentes, L’Esperance, Perez, and White 2007; Parks, Mendoza, and

Garcia Santos 2009). One study of migrants in Tlacotepec, Oaxaca claims “using a coyote essentially guarantees success for most undocumented migrants,” as all of their respondents who used a coyote eventually gained entry on their most recent trip (Parks, Mendoza, and Garcia Santos 2009, 51). The authors go on to suggest this “can be attributed in part to the fact that coyotes are generally not paid until their clients are delivered safely to their final destination, at which point the migrant’s U.S.-based relatives pay the coyote for his services” (Parks, Mendoza, and Garcia Santos 2009, 51). This also implies that the “cash on delivery” system serves as a mechanism of social control safeguarding migrants against various forms of abuse by the coyote.

Extant quantitative studies examining the probability of apprehension somewhat support the assertion made by Parks and her colleagues. Singer and Massey (1998) found that “compared to persons crossing alone, first-time migrants crossing with either family/friends or coyotes experiences lower odds of being apprehended (583). A more recent study found the same to be true, however not for first-time crossers, but rather for migrants with at least one prior trip (Donato, Wagner, and Patterson 2008). These findings, however, say more about the increased risk of apprehension while crossing *alone* rather than of decreased risk when crossing with a coyote.

The prevalence of coyote use and smuggling fees have increased over the past two decades. However, it appears that U.S. authorities “have become more adept at intercepting undocumented migrants” (Hicken, Cohen, and Narvaez 2010, 65), likely due to staffing increases and changes in technology (Andreas 1998; 2000). One study of a migrant-sending community in Yucatán found that the average number of apprehensions

per person per trip increased from 0.35 before 1990 to 3 between 2006 and 2009 (Hicken, Cohen, and Narvaez 2010). Further, “before 1990, only 29% of border crossers were apprehended even once. In the 2007-2009 period, however, 44% of undocumented migrants were apprehended at least once” (Hicken, Cohen, Narvaez, 2010, 65). Another study found that 48% of respondents reported being apprehended on their most recent trip (Parks, Lozada, Mendoza, and Santos 2009). As Parks et al. note, “Despite a rising probability of being caught by the Border Patrol at least once on a given trip up to the border, apprehended migrants persist until they succeed” (2009, 48). At least 20% of their respondents indicated that it took them until the third try to successfully cross the border without being detected—yet almost everyone successfully made it.

Whether or not the effectiveness of using a coyote is real or a psychological artifact, relying on the services of a smuggling network is one way migrants and their families attempt to mitigate the risks of apprehension, death, and other dangers while crossing the border. In a similar vein, the fees migrants pay coyotes may be seen as an extension of this logic—with higher fees hopefully leading to a less risky and more successful crossing.

The following section briefly discusses how migrants’ demographic characteristics and different forms of capital have been discussed in the literature as generating or reducing risk in the migration process.

Social, Human, and a “Culture of Migration” in the Migratory Process

Immigration scholars have identified the importance of various forms of capital in navigating risks in the migration process, and have made a critical distinction between *migration-specific* and *general* forms of capital (Aguilera and Massey 2003; Singer and Massey 1998; Espinosa and Massey 1997; Massey and Espinosa 1997). In this section I describe three distinct yet equally important factors in the social process of migration: social capital, human capital, and a “culture of migration.” This theoretical approach most closely resembles what Williams and Baláža (2011) describe as an economics-oriented approach, which places an emphasis on individual and household decisions in management of risk and uncertainty, although Portes (1998) notes that the concept of social capital actually emerged as a direct response to neoclassical economic assumptions about human behavior. In addition to the concepts of human and social capital, I also attempt to incorporate the notion of a “culture of migration” into understanding the factors that shape people unauthorized crossing attempts.

Social Capital

Immigration scholars have paid notable attention to the importance of social capital in the initiation, facilitation, and perpetuation of migration flows to the United States (Massey et al. 1993). However, the way in which social capital has been defined by sociologists has varied substantially. For instance, Portes and Sensenbrenner (1993) and Portes (1998) highlight a number of definitions in their reviews of the literature, ranging from those that were more conceptually broad in earlier years to those that are

more concrete in recent years. Baker (1990) defines social capital as “a resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors.” (619 as quoted in Portes 1998, 6). Burt (1992) defines the concept as “...friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital” (9 as quoted in Portes 1998, 6). Espinosa and Massey (1997) prefer Bourdieu and Wacquant’s (1992) definition which describes the concept as “the sum of resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (119). Despite the variation in definitions, Portes (1998) argues that a general consensus has emerged in the literature that “social capital stands for the ability of actors to secure benefits by virtue of membership in social networks or other social structures” (Portes 1998). In other words, membership in a social network or structure, and the ability to convert the value of those social ties into yet other forms of capital are central to the sociological understanding of social capital.

But how exactly does social capital function? Why does it work? It is clear what the recipient of social capital gains—the ability to convert the value of their relationships into other forms of capital—however, it is much less clear what the donor of social capital has to gain in the relationship (Portes 1998). Portes and Sensenbrenner (1993) and Portes (1998) emphasize that the key to understanding why social capital works lies in the sources of social capital, which they identify as “value introjection,” “reciprocity exchanges,” “bounded solidarity,” and “enforceable trust” (Portes and Sensenbrenner

1993, 1323-1325; Portes 1998, 7-9). The donors and recipients of social capital are persuaded to comply with their respective roles in the network exchange through either principled or instrumental motivations. Value introjection and bounded solidarity are principle-based, whereas reciprocity exchanges and enforceable trust are instrumental-based.

According to Portes and Sensenbrenner (1993) "...value introjection prompts other to behave in ways other than on pure greed" (1323). Members of the network are socialized into consensually established beliefs that are akin to the "moral" or "right thing" to do. The donors of social capital may feel a sense of moral obligation to assist the recipient of social capital. Although principle-based like value introjection, bounded solidarity, on the other hand, "does not arise from established values...but rather "out of the situational reaction of a class of people faced with common adversities" that is further strengthened by discrimination (Portes and Sensenbrenner 1993, 1325). Bounded solidarity is based on "principled group-oriented behavior" that is "born out of a common awareness" (Sensenbrenner 1993, 1324) or an understanding of in-group and out-group differences.

As noted, the sources of social capital can also be instrumental-based, as is the case with reciprocity exchanges and enforceable trust. According to Portes and Sensenbrenner (1993), "Social capital arising from *reciprocity transactions* consist of the accumulation of 'chits' based on previous good deeds to others, backed by the norm of reciprocity" (1324). The authors go on to note that "individuals are not expected to behave according to a higher morality, but rather to pursue selfish ends" (1993, 1324).

The “payback” or expected return may be from the original recipient that benefitted from the network tie individual or from the social group, and may not be immediately realized. Further, the return can also be based on “social intangibles” such as honor, respect, or recognition, and is what ultimately separates reciprocity exchanges from “regular market behavior” in the neoclassical-economics sense (1324).

Enforceable trust, while similar to reciprocity exchanges, differs in the sense that the donor’s behavior is oriented to the entire community rather than to the individual beneficiary of the social capital. Further, enforceable trust is based on the “anticipation of utilities associated with ‘good standing’ in a particular collectivity” and tends to be strongest in tight-knit communities with strong kinship and friendship ties (Portes and Sensenbrenner 1993, 1325). Waldinger and Lichter’s (2003) discussion of the social organization of migration in four Mexican communities based primarily on kinship, friendship, and *paisanaje* ties are just one example of the application of the concept of enforceable trust in practice (also see Charles Tilly’s 2007 discussion on what he calls “trust networks” in international migration).

Massey and colleagues (1987) were the first to apply the concept of social capital, in the form of network ties, to the migration literature by highlighting how they help migrants secure jobs and higher earnings in the United States (Aguilera and Massey 2003). General social capital in the migratory context has been operationalized as ties to siblings or friends in the United States, whereas migration-specific social capital consists of closer ties such as children or spouses (Aguilera and Massey 2003; Espinosa and Massey 1997; Massey and España 1987; Singer and Massey 1998). Using this model,

prior studies have empirically illustrated how migrant network ties shape people's initial decisions to migrate (Massey and Espinosa 1997), help facilitate an unauthorized crossing attempt (Singer and Massey 1998), and play a role in securing housing and higher wages in the United States (Espinosa 1997).

However, the "Massey model," which emphasizes the importance of social capital or network ties in the migration process, has not gone without critique. Krissman (2005) offers thorough criticisms of Massey's approach. For example, the author claims the Massey model overemphasizes the importance of social networks in the initiation of migration flows at the expense of macro-level demand-side factors. However, a careful reading of Massey et al.'s (1993) appraisal of the theories of international migration makes clear that the authors are not placing supply-side social network explanations ahead of others. Rather, Massey and colleagues emphasize that the mechanisms that initiate, facilitate, and perpetuate migration flows operate through demand- as well as supply-side forces, and can operate on multiple levels of analyses. Essentially, the Massey model is not incompatible with demand-side explanations of international migration, but rather offers a sociological account of migration as a social process from an individual or household perspective.

A second criticism of the Massey model is that it represents a "metaphorical network" rather than an actual network analysis, despite the fact that Massey and colleagues have never claimed to be conducting a formal network analysis. Ironically, Krissman's (2005) alternative "International Migration Network" model is not a network analysis in the true methodological sense as presented by Wasserman, Faust, and

Granovetter (1994), but rather simply describes various actors and institutions that play roles in the immigration process in a social space that closely resembles Bourdieu's (1980) notion of "field."

Although I find these specific criticisms of the Massey model to be somewhat unfounded, Krissman (2005) and other scholars do provide more general concerns about the ways social capital and networks have been conceptualized in the migration literature. Portes and Sensenbrenner (1993) noted that strong migrant networks do not necessarily lead to positive outcomes, but can result in negative consequences arising from "costs of community solidarity" such as the recipients of social capital free-riding on community bonds, norms, and expectations (1340-1341). Migrant networks can also lead to "constraints on personal or individual freedom" and restrict contact with outsiders and limit potential opportunities in areas outside of the network (1341). Finally, some network members may feel that solidarity arising from common adversity could ultimately be undermined by the departure of more successful members, which could lead to what Portes and Sensenbrenner (1993) describe as "leveling pressures," or an effort to keep group members from achieving individual mobility (1342).

One scholar notes that "most research on social networks and immigrant incorporation focuses on the short-term and positive functions of network" (Hagan 1998, 55). This approach, however, overlooks the fact that migrant networks can be asymmetrical, exploitative in nature, yield negative consequences, and transform over time (Portes and Sensenbrenner 1993; Mahler 1995; Hagan 1998; Krissman 2005). Hagan (1998) found that social networks among Mayan immigrants in Houston tended to

be gendered and split according to occupational niches, with men working for one particular supermarket chain and women working as live-in domestics. Women's networks tended to be more closed and consisted of mostly strong ties. While men's networks were also characterized by strong ties, men were much more likely to establish weak ties with people outside of their network. These contacts ultimately helped men make more significant gains in the incorporation process, such as legalizing their immigration statuses, when compared to women (Hagan 1998).

The notion that social capital and network membership can have negative consequences, be exploitative, and result in asymmetrical relationships are important criticisms of the Massey model approach. Nevertheless, unauthorized migrants, especially those with relatively less migration experience, tend to have lower levels of financial and human capital, and therefore their social capital may be one of the only few resources at their disposal to facilitate a crossing attempt.

While some scholars have been critical of the "migrant network" approach, a number of studies have found social capital to play an extremely important role in the migration process for less experienced migrants. I follow in the tradition of the "metaphorical network" by examining how, if at all, ties to family members and friends in one's desired destination impact people's modes of crossing and the fees paid to coyotes. Significant results would suggest that social capital continues to be an important factor in the unauthorized crossing experience in the current era of increased border enforcement. On the other hand, a null finding may suggest at least two possibilities: 1) increased border security has pushed the unauthorized crossing itself further into an

informal economy that is dominated by a more standardized and corporate-like organizational structure—one in which social capital plays little if any role in facilitating unauthorized crossing attempts, or 2) the “net effects” approach, which I utilize in this dissertation, could be confounding the “positive” and “negative” aspects of social capital, thus resulting in a null finding.

Demographics, Human Capital, and Risk Tolerance/Aversion

In addition to emphasizing the significance of social capital, scholars have also identified the importance of demographic characteristics and human capital in various stages of the migration process (Massey and Espinosa 1997; Espinosa and Massey 1997; Hagan 1998; 2008; Hodagneu-Sotelo 1994; Singer and Massey 1998; Aguilera and Massey 2003; Donato and Patterson 2004; Donato, Wagner, and Patterson 2008). General human capital has been operationalized to include factors such as age, education, sector of employment, and labor market experience. Although not conceptualized as a form of human capital per se, gender also plays a significant role in the migration processes, something that stems from gender norms and expectations in sending countries with relatively more rigid patriarchal constraints.

Some scholars have noted that “it is difficult to a priori theorise the direction of influence of risk aversion/tolerance on migration” (Jaeger et al. 2007 as cited by Williams and Baláža 2011, 170). However, research has identified important differences between demographic characteristics, human capital, and risk tolerance/aversion that can help immigration scholars better understand how and why these factors play important roles in

the migration process. For example, the consensus seems to be that “women are less willing than men to take risks” (Hartog et al. 2000; Jaeger et al. 2007, as cited by Williams and Baláža 2011, 170) and “willingness to take risks decreases with age” (Donkers et al. 1999; Dohmen et al. 2005, as cited by Williams and Baláža 2011, 170), a finding that is consistent with other areas of study such as juvenile delinquency and criminology (Gottfredson and Hirschi 1990; Moffitt 1993; Kazemian and Farrington 2006). Williams and Baláža (2011) go on to note that “young adults and teenagers are more likely to be not only more risk tolerant, but also to be risk seeking in their migration behavior and intentions.” (170). Changes in income or wealth do not “have a significant impact on willingness to take risk” (Williams and Baláža 2011, 171). There do, however, seem to be differences in risk tolerance/aversion according to education. “More educated individuals, or those with more educated parents, are more willing to take risks” (Dohmen et al 2005; 2006; Jaeger et al 2007 as cited by Williams and Baláža 2011, 170). These generalized findings can offer greater insight not just on the propensity to migrate, but also how people attempt to manage risks while attempting an unauthorized border crossing attempt.

Scholars have noted an important difference between general and migration-specific human capital in the migration process. Whereas general human capital includes age, education, and labor market experience, migration-specific human capital has been operationalized as one’s first-hand immigration experiences—a factor that has also consistently been shown to be of notable importance in the social process of migration (Espinosa and Massey 1997; Singer and Massey 1998; Cerrutti and Massey 2001; Donato

and Patterson 2004). Previous studies have found that as people accumulate migration-specific human capital they begin to rely less on social capital or network ties to cross the border and to integrate structurally into a receiving community on later trips (Espinosa and Massey 1997; Singer and Massey 1998; Aguilera and Massey 2003; Donato and Patterson 2004; Donato, Wagner, and Patterson 2008). In a sense, as people accumulate first-hand migration experience they begin to feel that they know what to expect when crossing the border, thus decreasing uncertainty about the journey. Rather than relying on others, more experienced migrants can also draw on their own stores of knowledge to minimize risk along the way. Further, as people gain first-hand migration experience, they themselves become important social ties for future potential migrants, thus contributing to an on-going process known as the “cumulative causation” of migration (Massey et al. 2002; 1993; Myrdal 1957) or the “embeddedness” of migration (Portes and Sensenbrenner 1993).

A Culture of Migration

While previous research has extensively illustrated the importance of human and social capital in the migration process, notable attention has also been paid to the emergence of a “culture of migration” (Kandel and Massey 2002) in sending-countries throughout the world. Previous work has noted cultures of migration in sending-communities ranging from the Polynesian island of Niue among those migrating to New Zealand (Connell 2008), to communities in Morocco engaging in high levels of migration to the European Union (Heering, van der Erf, and Van Wissen 2004). The global span of

cultures of migration speaks largely to increasingly globalized and transnational migration flows. However, given the unique socio-historic, political, and economic relationships, a 2,000-mile shared border, and a history of migration flows from Mexico to the United States spanning nearly 100 years, it is difficult to imagine a country with a more embedded culture of migration than that of Mexico.

The culture of migration in certain regions of Mexico has been extensively discussed by sociologists, political scientists, and anthropologists alike (see Cornelius 1990; Kandel and Massey 2002; Cohen 2004; Wilson 2010). Yet Wilson (2010) emphasizes that this concept “has not been well defined, nor its various aspects explored” (400). Cornelius (1990) has defined the culture of migration as “a set of interrelated perceptions, attitudinal orientations, socialization processes and social structures, including transnational social networks, growing out of the international migratory experience, which constantly encourage, validate and facilitate participation in this movement” (as cited by Jarvis et al., 2009, 8 and Wilson 2010, 400). However, as Wilson notes, this “definition mixes social and cultural phenomena” (2010, 400). I aim to contribute to the discussion on the “culture of migration” in the Mexican context by distinguishing between social and cultural factors that are intertwined in Cornelius’ definition, and empirically testing whether these factors help explain variation in modes of crossing, coyote fees, and encounters with *bajadores*.

A culture of migration has developed in communities of West-Central Mexico perhaps more than in any other area of the country, as this region has long been an established source of migrants to the United States (Massey et al 1987; Massey, Durand,

and Malone 2002; Durand and Massey 2009). This region's long history of migration and depth of migration-specific cultural capital is undoubtedly attributed to the Bracero Program (1942-1964). *Braceros* were migrant workers recruited largely from West-Central Mexico who were granted temporary work visas to fill the demand for low-wage labor in the agricultural industry throughout the United States during the early-to-mid 20th Century (Massey, Durand, and Malone 2002). The Bracero Program officially ended in 1964, yet many workers had established ties to employers and communities north of the border that sustained migration flows for generations after the end of the program (Orrenius 2001; Rodriguez 2007).

A culture of migration is often reflected in the collective identity of many communities that is heavily centered on transnational migration. People in communities with long histories of migration have grown up hearing migration stories and, in many cases, there may be a communal expectation or individual desire to migrate by a certain age for reasons beyond issues of economic need (Kandel and Massey 2002; Cornelius and Lewis 2007).

The way people facilitate a border-crossing attempt and the smuggling fees they pay may depend a great deal on their access to migration-specific social capital or the degree of migration-specific human capital they possess. However, a person's initial access to and extent of social capital may be largely mediated by a culture of migration in a given area, something which is contingent upon the historical context of his or her sending-community in the migration phenomenon. Regions with a deep and well-established history of migration may have greater access to migration-specific social

capital or more extensive social networks to facilitate an unauthorized border-crossing attempt than regions with relatively recent immigration experience. A community can generate migration specific-social capital and individuals can accumulate first-hand migration experience rather quickly, as has been the case with many communities in southern Mexico with fairly recent migration histories post-NAFTA. However, it may take generations of constant migration from a particular community for a culture of migration to truly be embedded within the community. On the other hand, it is possible that relatively inexperienced migrants with weak personal ties to people in the United States, but from areas with an embedded culture of migration, may possess a unique advantage in the migration process than those with a similar background but not from an area with a high prevalence of transnational migration. By systematically examining social capital and a culture of migration separately, I can begin to examine the obscure and relatively unexplored space where social capital ends and a “culture of migration” begins.

A major challenge quantitative researchers have faced is exactly how to quantify and operationalize a concept such as a “culture of migration,” especially when examining the migration phenomenon on an individual level from a quantitative perspective. How exactly does one begin to measure systems of cultural reproduction? One option is to estimate statistical models that include controls for migrants’ region of origin (to distinguish states in West-Central Mexico with a long history migration from other regions of the country), Border Patrol apprehension statistics (a proxy for the monthly volume of migration flow from one’s state of origin), or include Mexican Census data on

state-level indicators of migration intensity—all of which can arguably serve as proxies for “a culture of migration” in a person’s state of origin. By including these contextual controls in my multivariate analyses, I will examine whether “a culture of migration” is in fact an important factor that can help explicate migrant crossing modes independent of various forms of human and social capital.

Dissertation Format

My dissertation consists of three scholarly articles, each of which I will submit for consideration for publication in *International Migration Review* and *Social Problems*. The articles can be found in the appendices of this document. Below I briefly describe the dissertation format and the aim of each article.

As noted in the previous section, my dissertation draws on the human capital, risk tolerance/aversion, and social capital approaches to understand how migrants may mediate risks during unauthorized crossing attempts. The role of “cultures of migration” is also discussed. The first article (see Appendix A) examines how migrants’ modes of crossing are determined by different levels of general human capital and financial resources (e.g., age, household income), gender, social capital (e.g., ties to family or friends in one’s desired destination), migration-specific human capital (e.g., number of lifetime unauthorized crossings), and a “culture of migration” in people’s sending-states (i.e., various state-level measures of people’s engagement in U.S. migration). As in previous studies, the present study identifies crossing alone, with family members/friends, or a coyote as possible crossing modes. However, I depart from previous quantitative studies and systematically differentiate between coyote types:

“border business” and “interior,” something that previous qualitative studies have called for (Lopez Castro 1998; Spener 2009; Izacara Palacios 2011).

In the second article (see Appendix B) I examine variation in coyote fees among those who utilized smuggling services. This contributes significantly to the migration literature because only one study to date (Parks, Lozada, Mendoza, and Garcias Santos 2009) has examined variation in coyote fees at the individual level, and no other study has done so from a risk tolerance/aversion perspective. Previous studies that have examined variation in coyote fees have done so by examining how fees vary across time and geographic regions as a result of increased border militarization. Considering that the variation in coyote fees has been relatively under-theorized at the individual level, I draw on the same previously described factors (human and social capital, gender, risk tolerance/aversion and “cultures of migration”) to examine variation in fees paid to coyotes among those who utilized smuggling services. Previous literature has noted important differences in modes of crossing according to different levels of human, social, and migration-specific human capital. It would logically follow that smuggling fees vary according to these factors as well. I also contribute to the migration literature by systematically examining whether there are significant differences in coyote fees according to coyote types.

In the third and final article (see Appendix C) I attempt to bridge the gap between the migration literature, which draws heavily on the human capital, risk tolerance/aversion, and social capital approaches, and the victimology literature to explicate migrants’ encounters with what are often described colloquially in Spanish as

“bajadores.” Bajadores are border bandits or stick-up crews that wander the desert in search of migrants or drug mules to rob. In addition to examining individual level risk factors (e.g., age, gender, income, education, ethnicity) and contextual risk factors (e.g., region of crossing, season, group size), I also examine whether or not traveling with a coyote protects against encounters with bajadores. Most people view traveling with a coyote as one way to decrease the odds of apprehension and risk of injury. However, is it possible that the same coyotes that migrants trust to safely guide them across the desert are actually increasing the probability of encountering and being victimized by bajadores? I intend to explore this possible paradox using MBCS data.

CHAPTER 2: PRESENT STUDY

The present dissertation is part of the first wave of a much larger project entitled the *Migrant Border Crossing Study* (MBCS) for which I was the Principal Investigator. The aim of the project was to gather quantitative data on the unauthorized crossing experience through southern Arizona during an era of increased border enforcement to complement and extend qualitative research that has been conducted in the area (O’Leary 2008A; 2008B; 2009). The MBCS consisted of surveys with randomly selected recently repatriated unauthorized migrants at a shelter in Nogales, Sonora between October 2007 and July 2009. An article describing the methodology used in the MBCS to survey migrants was recently granted a “revise and resubmit” from *International Migration Review*. Portions of the *Data and Methods* sections in the present study appear in that article.

The MBCS was carried out with the help of several research assistants in the academic areas of Sociology, Mexican American Studies, and Latin American Studies at the University of Arizona. My responsibilities as Principal Investigator included assembling, training, and managing the team of research assistants. In addition, I also led in creating, translating, and pre-testing the survey instrument, coordinating weekly trips to Nogales, Sonora for data collection, and data management and analyses.

The methods, results, and conclusions of this study are presented in the papers appended to this dissertation. The following is a summary of the most important findings in this document. I drew on MBCS data to examine how migrants’ modes of crossing, fees paid to human smugglers, and encounters with bajadores vary according to

individual level factors and state level controls. Overall, there do appear to be important differences in modes of crossing and fees paid to smugglers according to demographic characteristics, and levels of general human capital, social capital, and migration-specific human capital. Women are more likely to travel with both coyote types than with family members/friends relative to men. However people with greater lifetime unauthorized migration experience are more likely to travel with family members/friends rather than with either coyote type. These findings are consistent with those in the literature that were generated using different survey data in other geographical areas of the border. There also appear to be important differences between people who travel with “border business” coyotes compared to those who cross with “interior” coyotes; a distinction that prior studies on modes of crossing were unable to make. Older migrants and those who cross during summer months are less likely to travel with an “interior” coyote than a “border business” coyote, while the opposite is true for those who crossed through the Sonoyta corridor. Interestingly, a “culture of migration” and measures of migration-specific social capital do not statistically significantly explain different crossing modes. Again, gender, age, previous migration experience, crossing corridor, and season best explain migrants’ modes of crossing.

I also examined variation in fees among those who relied on the services of human smugglers (see Appendix B). The present study is one of only two studies that examined the connection between individual level factors and smuggling fees (see Parks Lozada, Mendoza, and Garcia Santos 2009), therefore the impact of human capital, risk tolerance/aversion, social capital, and “cultures of migration” have been relatively

unexplored and under-theorized in the literature. I found that higher coyote fees are explained by more formal education, being married, being the sole economic provider for one's household, and higher levels of household income—all of which are measures of general human capital. Higher levels of migration-specific human capital also lead to higher coyote fees, as migrants with more cumulative lifetime crossing experience tend to pay more than less experienced crossers. These findings, for the most part, are consistent with the literature on human capital and risk tolerance/aversion in the migration process.

Contextual factors pertaining to the most recent crossing also affect the price of a coyote. People who reported crossing in larger groups or during the summer also, on average, paid higher fees. Crossing in large groups and during the summer, although for different reasons, present higher levels of risk for smugglers, which they offset by charging higher fees. Large groups increase the risk of being detected by U.S. authorities and, in turn, increase the probability of apprehension, while walking across the border during hot summer months increases the risk of hyperthermia and death for both migrants and the coyotes. However, the single strongest predictor of higher smuggling fees is the region of one's desired destination in the United States. For example, people traveling to the northeastern United States pay nearly \$560 more than those traveling to a destination in the western United States such as Arizona or California.

Coyote fees do not vary by gender, age, or social capital in people's desired destinations. These findings are particularly interesting because they run counter to what one would expect given the literature on modes of crossing which finds that the groups that are most "at risk"—younger, female, and less experienced migrants—tend to cross

with others rather than alone. The theoretical implications of these findings and those noted above are discussed in greater detail in the article presented in Appendix B.

Finally, I drew on the migration and victimology literatures to better understand risk factors for encountering bajadores or border bandits while attempting an unauthorized crossing through southern Arizona. The risk does not appear to be higher for males, young adults, less educated, and the more impoverished—results that contradict conventional perspectives in American victimology literature. There do, however, appear to be important predictors of bandit victimization while crossing. With the exception of crossing near the city of Nogales, no other factor increases the risk of encountering bandits more than traveling with a coyote, although there were no differences between specific types of coyote. People who travel with a coyote are 2.5 times more likely to encounter bajadores than people who do not rely on smuggling services. Research has found that migrants view using a coyote as crucial to reducing one's risk of apprehension, serious injury, or even death. Ironically, by attempting to mediate these risks, migrants who rely on the services of a coyote actually place themselves at higher risk for encountering stick-up crews in the desert. The causal ordering of this relationship and the theoretical implications of this finding are discussed in detail in Appendix C.

CHAPTER 3: CONCLUSION

Unauthorized migration to the United States, although currently a hotly contested political issue, is by no means a recent social phenomenon. Social scientific studies examining Mexican migration to this country date back to nearly as long as the migration flows between these countries themselves. Some social scientists, such as renowned immigration scholar Douglas S. Massey, have hypothesized that the era of mass Mexican migration to the United States is now in its final stage having peaked in the mid-2000s (Massey 2013). This assertion appears to be supported by a recent Pew Research Center study which finds that the “net flow” of migration from Mexico is now zero (Passel, Cohn, and Gonzalez-Barrera 2012). While it is possible that the United States may never experience the same levels of migration from Mexico that occurred during the last decade, their unique socio-historical relationship and massive shared land border make it likely that migration between these countries will never cease. Even if the era of mass Mexican migration has come and gone, hundreds-of-thousands of Mexican migrants continue to be apprehended by U.S. authorities every year. Mexican migration remains and will continue to remain an important social and political issue and critical area of academic inquiry.

Unauthorized migration between these nation states is just one example of many transnational migration flows throughout the world. It is likely that globalization will only increase or initiate new migration flows world-wide as people respond to the redistribution of resources on a global level. Globalization and technological changes have led to a time-space compression (Aas 2007) allowing migrants to travel with greater

ease while simultaneously staying connected socially and culturally to their mother countries. The globalization process not only ensures that migration will remain a relevant social phenomenon, but it has changed the nature of how people incorporate into and transform their host societies.

Some early globalization scholars hypothesized that the relevance of the nation-state and the importance of political boundaries would erode with increased globalization (Aas 2007). However, neo-liberal economic reforms have led to an asymmetrical globalization process; one in which raw materials, goods, and financial capital are able to move across international boundaries with relative ease when compared to the movement of labor and people. This, coupled with the possibility of another terrorist attack on the United States, has resulted in a cult of securitization in which the importance of the nation-state and the idealization of impermeable political boundaries have thrived. Thus, the complete opposite of what some early globalization scholars hypothesized happened: the importance of the nation-state has remained, and political boundaries between countries have become increasingly militarized.

The current debate on immigration reform in the United States exemplifies this point. We are at a pivotal point in our country's history. Policy makers in Washington, DC are on the verge of proposing, debating, and voting on the single most important piece of legislation on immigration in nearly thirty years. Unfortunately, much of the discussion continues to be on increased border enforcement as a trigger for paths to legal permanent status and U.S. citizenship. Border enforcement has done little to impede or deter unauthorized migration flows (or drug smuggling), but has led to a burgeoning

informal economy associated with clandestine crossings and countless human rights abuses by smugglers, bandits, and U.S. authorities. Increased enforcement has also led to thousands of migrant deaths and missing migrants who have attempted to cross the border. The notion that paths to legal status and citizenship could be contingent upon certain benchmarks of border security being met not only infuriates immigrant-rights groups and frustrates immigration scholars, but is a futile attempt to combat one of the many consequences of increased globalization.

Unauthorized migration to the United States will continue. The Migrant Border Crossing Study, on which this dissertation is based and now in its second wave, provides important data on people's experiences crossing the border, their encounters with U.S. authorities, and their removal from this country. This data source also offers insight on the extent of migrants' social ties to the United States and the effectiveness of removal programs in terms of deterring future crossing intentions. The research questions posed and addressed in this dissertation are specific to a unique case of global migration flows: unauthorized Mexican migration to the United States. Nevertheless, the theoretical frames of risk tolerance/aversion, human capital, social capital, and a "culture of migration" can be applied to other migration streams and possibly to other social contexts.

The MBCS is one of few studies that have focused exclusively on unauthorized migration flows and the unauthorized crossing experience from Mexico to the United States. Other studies in this line of inquiry include Massey's Mexican Migration Project and Wayne Cornelius' Mexican Migration Field Research Project. These studies, in turn,

are part of a larger tradition of academic inquiry on the social process of migration such as Alejandro Portes and Rubén Rumbaut's Children of Immigrants Longitudinal Study which examines how the second generation incorporates structurally and culturally into dominant society.

Interestingly, I believe that the future trajectory of the sociological study of migration lies in the intersection of these substantive areas of scholarship. It is safe to say that we, as scholars, have a solid understanding of the unauthorized crossing experience as a social process. We also understand people's removal from the United States. On the other hand, insights from Portes and Rumbaut's work have offered knowledge on how and why the acculturation and assimilation of the second generation into mainstream dominant society is anything but linear and why it varies by socioeconomic status and ethnic/racial background. However, we have very little understanding of how the "1.5" and second-generations' incorporation into a host society and pro-social development may be affected by family breakup stemming directly from immigration enforcement practices. According to a Pew Research Center study, there are 5.5 million children in the United States who are members of mixed-status families (families in which some members are authorized residents and others are not), 4 million of which are U.S. citizens (Passel and Cohn 2009). Removal programs that allow law enforcement officials to enforce immigration laws such as *Secure Communities*, Arizona's SB 1070, Alabama's HB 56, or Indiana's SB 590 have torn apart hundreds-of-thousands of mix-status families, many of which are comprised of U.S. citizen children in the midst of their childhood and adolescent development. Numerous non-governmental

and human rights organizations have documented heart-wrenching stories of families' experiences dealing with the absence of loved-ones as a consequence of immigration enforcement policies. Academics must now begin to explore what, if any, are the long-term consequences of these largely preventable state-sponsored cases of family separation.

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APPENDIX A: THE FACILITATION OF UNAUTHORIZED MIGRATION
ATTEMPTS IN AN ERA OF HEIGHTENED BORDER ENFORCEMENT: NEW
EVIDENCE FROM THE ARIZONA-SONORA BORDER REGION

Prepared to be submitted to *International Migration Review*

Abstract

This study utilizes unique survey data (n = 415) collected from repatriated migrants in Mexico to examine how people facilitate unauthorized crossing attempts through southern Arizona, as this area has become the most important crossing corridor in an era of increased border enforcement. Similar to previous studies, this analysis uses various measures of general human capital, migration-specific social capital, and migration-specific human capital to explicate modes of crossing. However, this analysis expands on previous studies examining modes of crossing in two ways: first, it empirically tests the role of the “culture of migration” in explaining modes of crossing, and second, it differentiates between two main types of *coyotes*: “border business” and “interior.” Overall, there are important differences in general and migration-specific human capital. Women are more likely to travel with both coyote types than with family members/friends relative to men. On the other hand, people with greater lifetime unauthorized crossing experience are more likely to travel with family members/friends rather than with either coyote type. There also appear to be important differences between people who travel with “border business” coyotes when compared to those who cross with “interior” coyotes. Older migrants and those who cross during summer months are more likely to travel with an “interior” coyote than a “border” business

coyote, while with opposite is true for those who crossed through the Sonoyta corridor. Interestingly, a “culture of migration” and measures of migration-specific social capital do not statistically significantly explain different crossing modes. Implications and possible future research are also discussed

Introduction

What sociological factors contribute to how migrants attempt unauthorized crossings through southern Arizona? What role, if any, do sex, age, previous migration experience, migration-specific social capital, and a “culture of migration” play in this process? While there are numerous journalistic accounts of immigrants’ border crossing experiences (Hellman 2009; Urrea 2005; Conover 1987; Martinez 2002; Ellingwood 2008), only a handful of academic studies have addressed the actual facilitation, conditions, and circumstances surrounding the crossing experience itself (Singer and Massey 1998; Hagan 2008; Gathmann 2008; Donato and Patterson 2004; Samora 1971), especially clandestine crossing attempts through southern Arizona (for an exception see Ochoa O’Leary 2009). However, quantitative studies on the clandestine crossing experience have been rare (Singer and Massey 1998; Donato and Patterson 2004), and in the case of southern Arizona, nonexistent.

Not only has southern Arizona recently become the most frequently traversed crossing corridor along the U.S.-Mexico border, but increased enforcement efforts in the region have resulted in numerous consequences and elevated risks for crossing migrants. Given the importance of this geographical area, as well as the limited understanding of how migrants facilitate a crossing attempt, this study focuses exclusively on the unauthorized crossing experience through southern Arizona in a time of heightened border security, or what scholars have described as the “post-Gatekeeper” era. Using unique quantitative data—the first wave of the *Migrant Border Crosser Survey* (MBCS)—I revisit the examination of unauthorized migrants’ mode of crossing in an era

of intensified border enforcement in southern Arizona, which has become the most important clandestine crossing corridor along the entire U.S.-Mexico border. However, unlike previous quantitative studies, I specifically differentiate between *coyote* types (i.e. “border business” and “interior”), a distinction which qualitative studies have deemed crucial (Lopez Castro 1998; Spener 2009).

Literature Review

Although this study focuses exclusively on the experiences of unauthorized migrants from Mexico, just one of the many migrant-sending countries, it is important to keep in mind that Mexican migrants can be of different ethnicities, speak languages other than Spanish, have varying histories of migration at the community or regional level, possess different levels of first-hand migration experience, and have differential access to social capital and networks to help facilitate a border crossing attempt. The diversity of unauthorized Mexican migrants has been well documented in the literature, with special attention paid to how certain demographic characteristics shape how unauthorized migrants attempt a clandestine crossing (Singer and Massey 1998; Donato and Patterson 2004; Hagan 2008). The proceeding section discusses extant studies on unauthorized modes of crossing, and follows by detailing the gaps in the literature and how this study will address those limitations.

Existing Studies on Mode of Crossing

Previous studies have found that undocumented migrants typically cross the border in one of three ways: alone, with family or friends, or with a paid coyote or guide (Singer and Massey 1998; Gathmann 2008). Migrants—or the friends and family members of migrants—who are at higher risk for exploitation or physical risk during the journey and that have less migration experience may contract a coyote as an attempt to lower the physical risks associated with crossing and decrease the likelihood of apprehension (Singer and Massey 1998; Fuentes, L'Esperance, Perez, and White 2007; Parks, Mendoza, and Garcia Santos 2009). On the other hand, migrants with greater levels of different forms of capital or those who are at lower risk for exploitation may choose to travel without a coyote (e.g., alone or with family members/friends). While attention has been given to the influence that demographic characteristics and varying levels of different types of capital have on influencing an unauthorized migrant's mode of crossing, extant quantitative studies on modes of crossing have not differentiated between coyote types—something qualitative studies have noted is a major limitation. These limitations will be discussed in further detail below.

Arguably one of the most important demographic characteristics examined in connection with the migration phenomenon has been gender. Generally speaking, gender differences exist between men and women in terms of the likelihood of becoming an unauthorized immigrant and making future trips¹. Research has found that Mexican men

¹ One limitation in the literature is that the majority of work on gendered migration patterns has focused on the U.S.-Mexico case (Donato 2010). See Donato 2010 for differences between men and women in probability of migration to the U.S. for people from Mexico, Costa Rica, Puerto Rico, Nicaragua, and Dominican Republic according to documentation status.

have a higher probability than women of initially becoming unauthorized migrants (Bustamante et al. 1998; Cerrutti and Massey 2001, 2004; Donato 1993; 1998; Valdez-Suiter, Rosas-Lopez, and Pagaza 2007; Donato 2010) and of making subsequent trips (Donato and Patterson 2004; Donato 2010), although studies have shown that women are becoming a higher overall proportion of unauthorized migrants (Massey, Malone, and Durand 2002).

Gender has also proven to be an important factor in the social process of migration. Previous research has identified notable differences between men and women relating to how they draw on network ties to facilitate unauthorized border-crossing attempts (Hagan 2008; Donato and Patterson 2004), with findings suggesting that women foster social connections much more so than men (Hondagneu-Sotelo 1994). For instance, women are much more likely to cross with others than by themselves and tend to rely on family members residing in the United States to facilitate a crossing (Cerrutti and Massey 2001; Donato and Patterson 2004; Hagan 2008; Valdez-Suiter, Rosas-Lopez, and Pagaza 2007). It follows suit then that previous studies have also found that the “culture of migration” tends to be highly gendered not only in the Mexican context (Wilson 2010), but in countries such as Morocco as (Heering, van der Erf, and Wissen 2004).

Though for different reasons, ranging from structural to biological, there appears to be consensus in the sociological literature that women tend to be more risk averse than men when it comes to physical forms of risk taking (Hagan, Simpson, and Gillis 1988; Keane Gillis, and Hagan 1989, Zuckerman, Ball, and Black 1990; Miller and Hoffman

1995; Roth and Kroll 2007; Collett and Lizardo 2009). The unauthorized crossing experience itself is a physically risky endeavor, which may help explain why women are more likely to cross with others than by themselves net of factors such as age and previous migration experience. Descriptive findings from one study imply that women are more likely to use coyotes or guides than men, however, multivariate analyses found “that the tendency to rely on coyotes was characteristic of the period immediately following implementation of the Immigration Reform and Control Act, from 1987 through 1992” and that the finding did not hold for the 1993-1997 time period (Donato and Patterson 2004, 127). This suggests that women’s tendency to rely on coyotes may have been a short-term consequence of changes in immigration policy.

The immigration literature has also found that age is a particularly important form of general human capital in the social process of migration (Espinoza and Massey 1997; Singer and Massey 1998). With age comes a general increase in knowledge gained through lived experiences as well as a decrease in socially risky behavior. For instance, one study found that older married people are less likely to migrate in general than younger married people (Cerrutti and Massey 2001) net of all other factors. Among people who have migrated, previous studies have found that older migrants are more likely to migrate alone than with family or friends (Donato and Patterson 2004) or with a coyote (Singer and Massey 1998; Donato and Patterson 2004), even when controlling for previous migration experience.

The immigration literature has highlighted the importance of social capital in the migration process. Typically, social capital has been operationalized as ties to family

members or friends in the United States that have previously migrated (Cerrutti and Massey 2001; Donato and Patterson 2004; Hagan 2008; Valdez-Suiter, Rosas-Lopez, and Pagaza 2007). Much like previous migration experience, social networks also play a significant role in influencing how a person attempts a crossing. One study found that when controlling for all other factors, migrants with more extensive migration-specific social capital are more likely to cross with a coyote when compared to migrants lacking this type of capital (Singer and Massey 1998; Donato and Patterson 2004). Thus, it appears that migrants with close ties to people in the United States are drawing on those relationships to secure the services of a coyote when compared to migrants who lack such ties.

Limitations of the Literature and Contributions of this Study

As Lopez Castro (1998) importantly notes, there are different types of coyotes or guides whom undocumented migrants can rely on to facilitate a crossing. He specifically identifies three coyote types: “local-interior” coyotes, “local and border” coyotes and “border business” coyotes (Lopez Castro 1998:966). Typically, “local-interior” coyotes operate from within a sending community and know the person migrating personally. These coyotes travel to and across the border with the people they are guiding, live and work in the U.S. for a short period of time, and return to the sending community to begin the process once again. Local-interior coyotes do not smuggle migrants on a full-time basis, but rather do it to supplement their income or help out compatriots. “Local and border” coyotes consist of people originally from an interior sending-community who

now live along the border. Typically, these coyotes do not personally know the migrants, but rather migrants are referred to them by family members, friends, or acquaintances who have previously relied on his or her services in the past (Lopez Castro 1998:967-968). Finally, “border business” coyotes are individuals who live near the border and smuggle people on a full-time basis. They do not personally know their clients, nor are they referred by previous cliental. “Border business” coyotes are highly organized and consist of three main elements: recruiters, guides, and delivery persons (Lopez Castro 1998, 968; Izcara Palacios 2011).

I believe that there are important qualitative differences between coyote types and the characteristics of people who tend to rely on each type. The literature suggests that women have less overall migration experience than men, tend to cross with others rather than alone, and draw on existing ties in the desired destination to facilitate a crossing. Given these considerations, women may be more likely to use “interior” coyotes whom they or their family members know personally. In addition, migrants from the traditional-sending region or from communities with a socially embedded culture of migration may view the migration experience as a communal event (Waldinger and Lichter 2003) and therefore may be more likely to cross with an “interior” coyote or other members of their community rather than with a “border business” coyote. Therefore both women as well as migrants from sending-communities with a long history of migration may be more likely to use interior coyotes that they or their family members know personally, as the interior coyote can be held accountable by the community for the safety of the migrants they are traveling with. The community and other social bonds between

“interior” coyotes and their clients may act as important forms of informal social control that keep coyotes from overcharging, being abusive, or exploiting migrants during the journey. On the other hand, migrants from sending-communities with a more recent migration tradition may be more likely to rely on “border business” coyotes because of the overall lack of migration experience in the region as a whole.

Existing studies that examine the facilitation of the undocumented crossing experience have given us a better understanding of the sociological mechanisms that contribute to a migrant’s mode of crossing. However, I echo David Spener’s (2009) concerns that existing quantitative studies that examine migrants’ modes of crossing have failed to differentiate between coyote types, were largely based on data collected in a pre-Gatekeeper era, and focused on crossing attempts through southern California. In addition, only two other studies to date have included women in a quantitative analysis of crossing modes (see Donato and Patterson 2004; Donato, Patterson, and Wagner 2008). These are shortcomings I will be able to address using data from the first wave of the MBCS data. Spener (2009) has provided an exhaustive and detailed account of coyote types in an era of heightened border enforcement, however, his work is largely qualitative and focuses on *coyotaje* (coyote enterprises) in south Texas. A systematic quantitative analysis of crossing modes through southern Arizona, one which differentiates between coyote types, can help immigration scholars gain a better understanding of whether or not recent increased enforcement efforts have changed the dynamics of an unauthorized crossing attempt.

The failure to differentiate between specific types of coyotes in previous studies is likely confounding some of the true relationships between mode of crossing, demographic characteristics, and different levels of various forms of capital. In this study I will focus on variation between “border business” and “interior” coyotes, as differentiating between the closely related “local and border” and “local-interior” coyote types proved to be difficult for the study’s respondents. Despite this limitation, I believe that distinguishing between “border business” and “interior” coyotes will provide a significant contribution to the existing literature. Given an extensive review of the literature as well as the considerations addressed above, my formal hypotheses for these analyses are as follows:

H1: Less social capital, migration-specific human capital, or “culture of migration” leads to increased likelihood of relying on a “border business” coyote.

H2: More social capital and migration-specific cultural capital, but less migration-specific human capital leads to an increased reliance on “interior coyotes.”

H3: Higher levels of social capital, migration-specific human capital, and migration-specific cultural capital lead to an increased likelihood of crossing with family members, friends, and acquaintances.

Data and Methods

This study examines migrants’ modes of crossing using survey data from the first wave of the *Migrant Border Crossing Study (MBCS)* (N = 415). The MBCS is a quantitative survey created with the aim of gaining a better understanding of the sociological mechanisms and circumstances contributing to migrants’ most recent undocumented crossing experiences through southern Arizona. All surveys were

conducted at a migrant shelter in Nogales, Sonora, Mexico between October 2007 and July 2009. In order to be eligible to participate in the study individuals needed to be at least 18 years of age or older and must have attempted an undocumented crossing along the Arizona-Sonora/Baja California border, been apprehended by any United States authority, and repatriated to Mexico, all within the past six months at the time of the survey. We established these criteria to ensure that participants could recall the events of their most recent crossing experience in this specific geographic area and to allow for reasonable comparison between cases in an era of intensified border enforcement. Although we limited the sample to people whose last crossing experience was less than six months ago, the overwhelming majority of MBCS respondents had undergone their most recent crossing attempt about a week prior to being surveyed. The methodology used to survey migrants in the MBCS is extensively detailed in a different article (Martinez et al. n.d.).

Sampling

Researchers randomly selected potential participants from four previously defined areas in the shelter and in a hallway while they returned from eating. We then screened those who had been randomly selected for eligibility and asked them to participate in the survey after it was determined that they had met the eligibility requirements. Overall, only 14 potential participants refused to participate in the study, yielding a 97% response rate. Migrants' stay at the shelter was not contingent upon their participation in the survey.

The aim of the first wave of the MBCS was to generalize to repatriated migrants in the Tucson Sector during the study time period. The Tucson Sector includes an area that stretches from west of Lukeville, Arizona, to the Arizona-New Mexico border, and from the southern border with Mexico to the Utah State line. Since this study's entire sample consists of people who relied on the services of a shelter, one potential critique is that study respondents are in some way qualitatively different from people who did not stay in a shelter upon repatriation. I addressed this methodological concern by applying probability weights calculated from monthly Border Patrol apprehensions statistics during the study time period. The generalizability of the sample and comparisons of respondents' demographic characteristics to estimates of the study population are discussed elsewhere (Martinez et al. n.d.).

Variables Used in the Analysis

Dependent Variable

Mode of crossing: The existing literature has identified three ways in which a migrant can attempt an unauthorized crossing: alone, with family or friends (but not a coyote), or with a coyote. While I do maintain these previously identified modes of crossing, the main objective of this study is to differentiate *between* coyote types, something that has not been done in existing quantitative studies that examine modes of crossing. Among people who used a coyote, those who indicated that the coyote was from their hometown or that they had met the coyote through friends or family members before arriving to the border were categorized as having traveled with an "interior"

coyote. On the other hand, people who crossed with a coyote they met for the first time near the border were coded as having traveled with a “border business” coyote. Overall, respondents that traveled alone were coded “1,” cases in which a person traveled with family members, friends, or acquaintances (but not a coyote) were coded “2,” migrants who traveled with an “interior” coyote were coded “3,” and those who traveled with a “border business” coyote were coded as “4.”

Independent Variables

Female: This variable is a dichotomous variable indicating whether the respondent is female or not. Given a review of the literature, I hypothesize that women will be more likely to travel with an “interior” coyote than with a “border business” coyote, but more likely to travel with family members or friends than with either coyote type.

Age: Each individual’s age was recorded as a count variable. Age has been used in the literature on modes of crossing as a proxy for human capital. With age comes an increase in life experience and general knowledge. I expect older migrants to be more likely to cross without coyote (e.g., either alone or with family members or friends) than with either coyote type.

YEduc: Migrant’s educational attainment was recorded as a count of the number of years of formal education he or she has had. Number of years of education is used as a measure of and control for general human capital.

Log Income: This variable measures the respondent’s total monthly household income in log dollars and is used as a control for financial capital. I calculated the log of

total monthly household income as a means to adjust for skewed data. One would expect that respondents with higher levels of household income would be more likely to use either coyote type than to travel without a coyote simply because they can afford to pay for the services. However, most migrants finance crossing attempts through interpersonal loans from family members or friends in the residing in the United States, or agree to make monthly payments to the coyote over the course of the next several years once they arrive to their desired destination. Thus, more than anything, this variable serves as a control for financial capital.

FamilyDest: This variable is a proxy for migration-specific social capital and measures the presence of a *strong* familial tie in the respondent's desired destination. I must note that this variable includes some respondents who also indicated they have at least one friend in their desired destination. However, a review of the literature suggests that familial ties are stronger forms of migration-specific social capital than ties to friends; therefore the tie to a family member is of most interest. Cases with at least one family member in the desired destination were coded "1," all other cases were coded "0".

FriendsDest: This dichotomous variable specifically indicates whether or not the respondent has at least one friend in his desired destination but not a family member. Similar to *FamilyDest*, this variable is a proxy for migration-specific social capital. However, I treat this as weaker than a tie to a family member in the United States. Respondents who have at least one friend, but not family members residing in their desired destinations were coded "1". All other cases were coded "0".

Numcrosst: *Numcrosst* consists of a respondent's number of lifetime unauthorized crossing attempts and represents a measure of migration-specific human capital. I hypothesize that people with greater personal migration experience will be more likely to cross without a coyote than with both coyote types and more inclined to cross with a "border business" coyote than with a "interior" coyote because they have a better understanding of what to expect once they arrive at the border before attempting a crossing.

USYears: This variable represents the total number of years a respondent has lived in the U.S. and is a measure of migration-specific human capital. Although previous research has found that people with greater migration-specific human capital are more likely to cross alone or with family/friends than a coyote, this may only prove to be true to a certain extent. More specifically, people who have lived the majority of their lives in the United States, but have recently been apprehended and repatriated to a Mexican border town, may have few remaining contacts in Mexico or little experience with circular migration and need to rely on a "border business" coyote to attempt another crossing.

March/April: Historically, Border Patrol apprehensions have been highest during March and April of every year as migrants begin returning to the United States from holiday festivities in their hometowns. In fact, according to U.S. Border Patrol, 27% of all Tucson Sector apprehensions during this study's time period occurred in the months of March or April each year. In a similar vein, 25% of MBCS respondents also crossed in March or April. This variable is a dichotomous variable that controls for whether or

not a migrant's most recent crossing occurred during a month of peak unauthorized crossings.

Summer Crossing: *Summer* is a dichotomous variable that controls for whether or not the respondent's most recent border crossing occurred between the months of May and September. One could argue that attempting an unauthorized crossing through southern Arizona is most physically risky during summer months when temperatures frequently exceed 110 degrees Fahrenheit in the Sonoran desert. Therefore people may be more likely to utilize either coyote types during hot summer months to decrease the risk of hyperthermia. This variable controls for any variation in mode of crossing that may be attributed to crossing during a relatively hotter month.

Crossing Corridor: Previous studies examining unauthorized modes of crossing have indeed distinguished between geographical regions where crossings take place along the U.S.-Mexico border (e.g. California, Arizona, and Texas). However there are different corridors or routes *within* each region where crossings take place. For instance, there are five main crossing corridors along the Sonora-Arizona border which were dichotomized in this study. These corridors include Altar/Sasabe, Naco/Agua Prieta/Cananea, Sonoyta, Nogales, and San Luis Rio Colorado. This variable is broken down into individually dichotomized variables each representing a previously noted crossing corridor. The "Nogales" corridor serves as the referent category in the analysis, as it was historically the most important point of undocumented crossings in Arizona prior to increased border enforcement efforts of the 1990s and 2000s. In addition, the shelter, or research site, is located in the city of Nogales, Sonora.

% of Homes with Migrants Abroad: This variable represents the percent of households in a respondent's home state with at least one member in the United States between 1995 and 2000, and therefore acts as a proxy for a culture of migration or migration-specific cultural capital at the state level. The data do not come for the MBCS survey, but rather are estimates based on a sample of ten percent of the *XII Censo General de Población y Vivienda 2000* calculated by Mexico's *Consejo Nacional de Población* (CONAPO).

Marginalization Rank: The Marginalization Index, which was instituted in Mexico's *Consejo Nacional de Población* (CONAPO), is used to measure varying levels of development within the country. Every five years CONAPO ranks each of Mexico's 32 states from lowest levels to highest levels of marginalization. This study utilizes this state-level ranking. The index was created using a principle components method (Anzaldo and Prado 2005) and summarizes municipal- and state-levels of schooling, housing conditions, population density, and income characteristics (Anzaldo and Prado 2005; López-Córdova, Tokman, and Verhoogen 2005). Marginalization is a structural factor that can increase a person's social risks and vulnerability (Anzaldo and Prado 2005). In addition to measuring development, the index can be useful when assessing which segments of a population may be at higher risk for vulnerability during the unauthorized migration process (i.e. migrants from communities with high marginalization index scores), and therefore, may be likely to rely on others when attempting an unauthorized crossing.

Apprehensions: This variable represents the number of monthly Border Patrol apprehensions from a respondent's state in the Tucson Sector that occurred during the month of the interview. The *apprehensions* variable controls for monthly fluctuations in the unauthorized migration flows from each Mexican state, which may, in turn, alter the likelihood of a particular mode of crossing. Although not an exact measure of true unauthorized migration patterns, previous research has demonstrated that apprehensions are highly positively correlated with the true unauthorized flow ($r = 0.90$) and that changes in apprehensions can be used to track changes in migration patterns (Espenshade 1995b).

Handling Missing Data

I attempt to overcome the methodological challenge associated with missing data by using multiple imputation (MI) to deal with missing observations, a technique that has gained popularity in recent years (Rubin 1987; Schafer 1997; Stata 2009). MI preserves valuable information that would be lost in inferential analyses if listwise deletion were used. Although listwise deletion is the conventional technique utilized by most sociologists to handle missing data, it can result in selection bias as well as loss of statistical power (Graham, Olchowski, and Gilreath 2007). Further, listwise deletion requires that the missing data be missing completely at random (MCAR), whereas MI requires that the observations only be missing at random (MAR) (Allison 2002), thus MI makes less restrictive assumptions about the structure of missing data. Following the recommendation of Graham, Olchowski, and Gilreath (2007), I conducted twenty imputations ($m = 20$) using the multiple imputation by chained equations (MICE) method

(Royston, 2004; 2009; van Buuren, Boshuizen, and Knook 1999). Each imputation substituted cases with missing information with unbiased plausible values using their predictive distributions in a separate dataset. I then estimated variable means and conducted multinomial logistic regressions on each of the imputed datasets and combined the results using “Rubin’s Rules” to yield coefficient estimates and standard errors (Rubin 1987 as cited by Graham, Olchowski, and Gilreath 2007).

Results

Descriptive Statistics

Table 1 offers the descriptions and descriptive statistics for the dependent variables used in the analyses. For the sake of parsimony and clarity, reported means and standard error are for dichotomized versions of each crossing type. However, the inferential analysis utilized a categorical version of “mode of crossing” which included having crossed one of four ways: alone, with family members or friends (but not a coyote), with an “interior” coyote, or a “border business” coyote.

As illustrated by Table 1, approximately 8% of respondents crossed alone, while 17% traveled with family or friends, but no coyote. On the other hand, 30% of respondents noted they crossed with an “interior” coyote, while 45% indicated they traveled with a “border business” coyote.

Table 2 provides descriptions and descriptive statistics of the independent variables used in the analysis. As indicated by Table 2, 14% of respondents were female and the mean age and educational attainment for respondents was 32.2 and 7 years,

respectively. With regards to migration-specific social capital, 57% of respondents reported having family and 28% indicated they had friends (but not family members) in their destinations. On the other hand, 15% indicated that they did not have a strong tie to anyone residing where they were trying to go before being apprehended. In terms of migration-specific human capital (i.e., first-hand migration experience) respondents had, on average, 4.7 life-time unauthorized crossing attempts and had accumulated 5.1 years of experience living in the U.S. I also included variables to control for where and when migrants had attempted their most recent unauthorized crossing. For instance, 25% of respondents reported having attempted to cross during the months of March or April, which happen to be the busiest crossing months of the year. In addition, 45%, and 12% reported having tried to cross through the Altar/Sasabe corridor or the Sonoyta corridor, respectively, compared to 26% who attempted to cross near the urban area of Nogales, Sonora.

A major theoretical focus of this article is to attempt to link the notion of a “culture of migration” at the state level to individual level differences in modes of crossing. One way to do this is by utilizing dummy variables to control from a migrant’s region of origin. Another option would be to include a state-level measure of migration intensity in the analysis, such as the percent of households with at least one migrant living abroad. Originally I included both measures in the analysis; however the dummy variables for region of origin are highly correlated with the state level measure of migration intensity. Therefore I opted to utilize the state level measure of percent of homes with migrants abroad in the analysis because it is a more precise and proximate

measure of migration-specific cultural capital. As noted in table 2, the average percent of homes at the state level with at least one migrant abroad is approximately 4.6. This figure ranges from a high of 12.8% in the state of Zacatecas, which is located in the “traditional” sending region, to a low of 0.6% in Tabasco, which lies in the “south-southeastern” sending region.

Multinomial Logistic Regression and Results

I utilize multinomial logistic regression because the outcome variable of interest was coded as a categorical variable (Long 1997). This technique is more precise and exhaustive than binary logistic regression, and allows comparisons to be made among specific modes of crossing, rather than between one mode of crossing and all other modes, as would be the case with binary logistic regression.

Table 3 provides results of a multinomial logistic regression analysis which examines the relationship between modes of crossing and predictor variables. The table provides coefficients, significance levels, and standard errors for each independent variable, as well as the pseudo R-squared, which is an indicator of the overall variance explained by the model. Although not reported in the table, odds ratios can be derived by exponentiating the regression coefficient associated with each explanatory variable (Long 1997; Long and Freese 2006). All results are discussed in terms of odds ratios. Tables A, B, and C of the Appendix illustrate how each theoretically relevant conceptual grouping was subsequently added to the model to arrive at the final model depicted in Table 3. Due to the small number of observations (about 8% of respondents), results for

crossing “alone” are not the focus of this study and are therefore not reported in Table 3, although they are included in regression model. Further, the factors contributing to crossing alone have been extensively examined by previous scholars (Singer and Massey 1998; Donator and Patterson 2004; Donato, Wagner, and Patterson 2008), therefore I chose to focus my empirical analysis and discussion on differences between specific coyote types and crossing with family/friends.

Migration-Specific Cultural Capital and Mode of Crossing

I had originally hypothesized that migrants from areas with an embedded culture of migration would be more likely to attempt a crossing with an “interior” coyote or family members or friends than with a “border business” coyote considering these areas’ long history and communal nature of the migration process. That is, international migration would be seen as an important communal event in many of the communities of states with higher rates of migrants in the United States, particularly in states located in West-Central Mexico; an event which creates new social ties among young inexperienced migrants while strengthening existing communal bonds among seasoned migrants from the same community. I hypothesized that people from communities in which there exists an “embeddedness” of migration would be joining together to make the trip *al norte* much in the same way that they come together to celebrate the patron saint of their village or other important social events. However, findings from the multivariate analysis using MBCS data suggest that people from states with higher rates of migrants

abroad are no more or less likely to cross any specific way when compared to migrants from states with lower rates of migrants abroad.

Demographics and Mode of Crossing

Existing qualitative and quantitative studies have found that gender is an important factor in explicating mode of crossing. A number of studies have found that women are much more likely to cross with others than by themselves and tend to rely on strong ties in the United States to coordinate a crossing (Cerrutti and Massey 2001; Donato and Patterson 2004; Hagan 2008; Valdez-Suiter, Rosas-Lopez, and Pagaza 2007). Findings from this study appear to be consistent with those from previous work. When controlling for all other factors, women appear to be more likely to travel with either a “border business” coyote ($p = 0.009$) or an “interior” coyote ($p = 0.011$) than with family members. However, there does not appear to be a statistically significant difference between specific coyote types among women. Given women’s relatively recent migration experience in general when compared to men, as well as that women have tended to migrate for family reunification more so than men, it is likely that they and their family members would prefer to have them travel with a coyote than without a one. Since “interior” coyotes tend to be from the migrant’s hometown or personally know the migrant and their family, these social bonds and a sense of trust that accompany them may serve as a source of reassurance that they will be looked after during the crossing

attempt. However, as the following case suggests, an indirect tie to the coyote may not be a sufficient condition to avoid abandonment or exploitation².

Julieta is a 23 year-old single female and first-time crosser from the southern state of Chiapas. Collectively, her household earns about \$2,000 a month, which is actually a solid income for that part of the country. Nevertheless, she has been unemployed for 10 months and is trying to get to Fresno, California, where she has some friends from home, to earn some money.

She traveled up to the border with a group of friends from her home state and met up with a coyote in Altar, Sonora, that she had been referred to by a friend—the same friend who was also fronting the \$1,500 smuggling fee.

The group of seven, including the guide, traveled east to Naco, Sonora, and began crossing the border. Julieta was mentally prepared for a three-day crossing, but three days turned into five after the guide abandoned Julieta and some of the group members. The group of four was forced to turn themselves over to Border Patrol. When asked if she would cross again, Julieta indicated she would not. The whole experience was just too difficult [case ID: 4082009650].

In this case, Julieta, a young and inexperienced migrant, relied on the services of coyotes coordinated by a friend in California rather than trying to cross with her group of friends. The quoted fee of \$1,500 is actually slightly below the mean among respondents, however, as is discussed in a different article, is not surprising considering Julieta's age and inexperience (Martinez, n.d).

Although Mexican migration is still largely male-dominated, women are beginning to migrate on their own at an increasing rate, especially if they are the sole economic providers of their households. The following vignette offers an account of Maribel's experiences crossing with a coyote she had met near the border.

Maribel, 31, recently got divorced and is mother of three children, all of who are under the age of 12. She was having a difficult time making ends meet in

² All vignettes were constructed using data collected from closed-ended and open-ended responses in the survey, as well as researcher field notes. Direct quotes from the respondents are noted when applicable. All names used are pseudonyms.

Guerrero working as a tourist guide in the port city of Acapulco earning about \$120 a month. Despite not knowing anyone there, although she does have friends in other parts of California, she decided to try to migrate to Los Angeles. Maribel was only planning on staying for six months to make some money before returning home. She left Guerrero alone and traveled to Sonora to find someone to help her cross the border. Maribel said it was rather easy to find a guide because “there are a lot of them [coyotes] on the street in Sonoyta.” She found a man—someone she had never met—who agreed to help her across the border in a group of 26 people he had gotten together.

When asked if the coyote treated her well she said he had not hit her, but he did yell quite a bit and told her not to speak while crossing. She went on to say “he didn’t rob me, but they [coyotes] will rob you, I know others that have been robbed by their coyotes.” When asked if her group encountered bajadores or “stickup” crews along the way she said “no, but the coyote did warn us about bajadores and even took our money to ‘guard’ it.” It was not clear if she ever got her money back from the coyote.

Maribel has never lived in the United States and has been caught each of the four times she has tried crossing. When asked if she was going to try cross again she responded “no—this was the worst time, the Border Patrol treated me badly, they accused me of being Guatemalan and yelled at me a lot, and the desert is bad.” Maribel mentioned that she had seen human remains during her journey, and personally knows someone who has died trying to cross the border. When asked if she had done anything for the remains she came across, such as inform the authorities or even stop to pray, she simply said “no, nothing can be done.” [case ID: 4082009111]

Even women who travel with their partners seem to be more likely to draw on the services of smugglers rather than cross with family members or friends.

Jimena, a 35 year old female from the state of Guerrero, has some prior migration experience and most recently spent two years and nine months in the United States about three years ago. With just primary school education and limited opportunities at home, Jimena and her husband struggled economically, earning around a total of \$200 per month. They decided to try to make it back to California where they had once lived and worked. They still had friends and family there, so finding housing and work would not be difficult. Jimena only wanted to stay long enough to save some money to buy a small plot of land back home in Mexico.

She and her husband spent a week traveling from Guerrero up to the border. They finally arrived in Sonoyta, Sonora, where they met up with their coyote—a person

they had never met before. He agreed to take them across the border for \$1,700 each, and insisted they would only walk would about 15 hours before being picked up by the *riaitero* (a Spanish slang word meaning “driver,” derived from the English word “ride”). In all, Jimena and seven other people set out to cross the border through the outskirts of Sonoyta, with the coyote leading the way.

The group encountered a group of bajadores while crossing that stole all of their belongings—not just their money—but even the food they had packed for the crossing. After two days of walking Jimena’s husband began to slow considerably and fall behind. Eventually, the rest of the group was no longer in sight. Jimena and her husband were forced to turn themselves over to the Border Patrol. [Case ID: 222200864]

People often cite concerns over the women’s ability to endure the physical demands of the journey, feeling more comfortable having them cross with coyote, and even opting to pay higher fees to have women utilize alternative and safer manners of crossing, such as through ports of entry using false documents or hidden in a vehicle. However, in this case, it was her husband who had a difficult time keeping pace with the rest of the group, not Jimena.

Migration-Specific Social and Human Capital and Mode of Crossing

Previous studies have noted the importance of migration-specific human capital—particularly first-hand migration experience—in explicating how people facilitate an unauthorized crossing attempt. Singer and Massey (1998) and Donato, Wagner, and Patterson (2008) found that as individuals gain migration-specific human capital (i.e., accumulate undocumented migration experience) the odds of them crossing with a paid guide decrease. In other words, as migrants gain crossing experience, they rely less on the “assistance of others and more on abilities honed on earlier trips, thus substituting migration-specific human capital for general social capital” (Singer and Massey

1998:564). Results (Table 3) from this study appear to be consistent with those from previous studies. For instance, the odds of traveling with family/friends/acquaintances rather than an “interior” or “border business” coyote increase with the accumulation of unauthorized crossing attempts. The following vignette provides a first-hand account of how people with more crossing experience tend to avoid using the services of a coyote or guide.

Marcos is a 31 year-old divorced male from the state of Durango with three kids. He never received any formal education, and before his last crossing attempt had been working in agriculture making about \$200 a month. Marcos is an experienced migrant with 30 lifetime border crossings and 13 years’ experience in the United States. He was trying to get to Portales, New Mexico, near the border of the Texas panhandle, where his family lives. Marcos was planning on staying and working until whenever he would get caught.

He last crossed the border in April 2008 through the Altar-Sasabe corridor, not with the assistance of a coyote, but rather with five people he knew from his hometown. But after five days of trekking through the desert the group had split up, and Marcos and two others were apprehended by the Border Patrol while walking. Despite his lengthy history of border crossing attempts, he swears he is done trying without proper documentation. [Case ID: 04070820079]

Here, rather than rely on the services of a coyote in an area that is known for being controlled by drug trafficking organization and frequented by bajadores, Marcos and his friends set out on their own, putting their border-crossing knowledge and skills to use.

Although they managed to avoid trouble with drug mules and bajadores, they were not so fortunate when it came to U.S. authorities.

Born in Mexico City, Esteban, 31, currently lives in Aguascalientes with his common-law wife. He has been out of work for the past three months, but was last working as a cook in Michoacán. Esteban hopes to open a tattoo shop back home, but needs money to cover start-up costs. He has experience living and working in the United States—11 years in all—so he decided to try to make it Chicago, IL, and earn some money to open his shop.

Esteban has crossed the border 15 times and says he knows the way. This time he traveled up to the border from Aguascalientes with a friend and crossed near Nogales, Sonora. After two days of walking, his traveling companion ran out of water. Esteban approached a group of Santa Cruz County utility workers and asked for water, which they gave him, but was spotted by Border Patrol who stopped and questioned them. When asked how he felt about being caught, he stated “it made me laugh, this was the third time they’ve caught me on this trip!” Nevertheless, he plans on crossing again the following day. [ID: 05100810119]

For many, crossing the U.S.-Mexico border is challenging and physically-demanding. Even though his traveling companion ran out of water after two days, and although Esteban had been apprehended three times on his most recent crossing alone, he felt comfortable enough with the process that he made light of the experience. He even plans on crossing again as soon as possible. This particular case not only supports previous migration research that emphasizes the importance of prior experience in understanding modes of crossing (Singer and Massey 1998; Donato and Patterson 2004; Donato, Wagner, and Patterson 2008), but also the consensus in the literature noting that knowledge acquisition is associated with risk tolerance. The following example further highlights the importance of first-hand migration experience net of all factors:

Raúl, 35, is originally from Nayarit but has spent nearly 20 years in the United States. He crossed the border over a dozen times and last tried crossing outside of Nogales, Sonora, with a friend. In two days they made it as far as Rio Rico, or about 15 miles from the border, before being caught by two Border Patrol agents. The experience did not seem to faze him and he says he will try again next month.

He was trying to get to Aurora, IL, where his family currently lives. When asked how long he planned on staying in Illinois he responded “as long as possible,” which is not surprising considering he spent his formative years in this country and has strong ties to people in Illinois. [ID: 12112007125]

Prior studies have also emphasized the importance of migration-specific social capital, or the “migrant network” in the migration process. Yet I found no statistically significant effect for migration-specific social capital (e.g. strong ties in the form of family or friends) in a migrant’s desired destination and traveling family members/friends when compared to the two coyote types in the final model. As noted in Table B of the Appendix, social capital in one’s desired destination did help explain the difference in crossing with family members/friends relative to an “interior” coyote in the reduced models. More specifically, Models II and III of Table B illustrate a statistically significant negative relationship between social capital and traveling with family members/friends/acquaintances compared to an “interior” coyote.

Previous studies have noted that migrants “cash in” (Singer and Massey 1998; Spener 2009) their accumulated social capital and turn to their own sharpened migration skills to cross with family/friends/acquaintances rather than paying for a coyote or guide. For this assumption to hold, we would expect the addition of the migration-specific human capital variable (i.e., number of lifetime crossings) to decrease the magnitude and significance of the social capital variables. But that is not the case. Rather, it is the addition of the ecological and crossing corridor variables (i.e., the “Last Crossing Attempt” grouping) that eliminate the effect of social capital. Nevertheless, the importance of first-hand migration experience remains. In other words, the “number of crossings” variable does not work through the “social capital” variable, but rather operates independent of the social capital and “Last Crossing Attempt” controls, therefore calling into question the “substitution” effect often cited in the literature.

I believe that there are several possible explanations for this counterintuitive finding, however, I limit my discussion to just three. First, one unintended consequence of border enforcement efforts has been a decreased probability of returning to Mexico, essentially turning would-be seasonal migrants in to permanent settlers (Massey, Durand, Malone 2002; Massey 2005). This has been one major contributing factor to the exponential increase in the undocumented population in the United States. It is possible that “migrant network” has become so vast and saturated that the information flowing across these networks has become redundant (Massey et al. 1993).

A second possibility is that the ways in which “social capital” and the “migrant network” have been conceptualized in most quantitative migration studies, including the present study, are simply inadequate. Most studies in this tradition have viewed “social capital” in a positive light, especially in terms of decreasing the economic and social barriers to migration. Some scholars have highlighted this glaring limitation and have called for a differentiation between the *positive* and *negative* aspects of the metaphorical migrant network (Portes and Sensenbrenner 1993; Mahler 1995; Hagan 1998; Krissman 2005). Just as the immigrant network can be symmetrical and yield benefits, it can also be asymmetrical, exploitative, and result in negative consequences. Just because a person possesses a tie someone in their desired destination does not necessarily mean this connection will yield positive outcomes for the crossing itself. It is possible that the way I conceptualized and operationalized the notion of social capital, notably as being unidirectional in a positive sense, is actually confounding the relationship between different types and qualities of social capital and modes of crossing. Immigration

scholars working within this particular theoretical frame need to arrive at measure of social capital that can account for both the positive and negative aspects of ties to others.

Finally, and related to my second point, it is possible that by continuing to use the conventional “social capital” approach we are confounding having “strong ties” with having an “established life” in the United States, two factors which, at their core, are fundamentally different. Heightened border security and increased permanent settlement among unauthorized migrants has also led to a substantial increase in the “1.5 generation” among the undocumented. The undocumented “1.5 generation” consists of people who were brought to the United States at a young age, but due to heightened security, have not actively engaged in circular migration, but rather have spent their formative years in this country. If deported, members of the 1.5 generation may possess “strong ties” to the United States, but this social capital may not be very useful for crossing the border or in other aspects of the migration process. Overall, quantitative scholars should begin to theoretically and conceptually explore the notion of having “an established life” in the United States and differentiate it from other form of capital, doing so will only improve our theoretical understanding of the social process of migration.

“Interior” Coyote vs. “Border Business” Coyote

One of the main goals of this article was to identify important sociological differences between people who rely on “interior” coyotes relative to “border business” coyotes. Overall, there appear to be three factors that help explain this difference: age, season, and crossing corridor. When controlling for all other factors, older migrants are

less likely to cross with “interior” coyotes relative to “border business” coyotes (column three of table 3). The literature on migration has used age as a proxy for general human capital (Espinoza and Massey 1997; Singer and Massey 1998). As people age, they mature, gain important lived experience, and are less likely to engage in physically risky behavior (Espinoza and Massey 1997; Singer and Massey 1998; Donato and Patterson 2004, Donato, Wagner, and Patterson 2008). There are two theoretically informed explanations for this finding. First, it is possible that older migrants simply see traveling with a “border business” coyote as less risky than traveling with an “interior” coyote. “Border business” coyote smuggle people on a full-time basis, and often charge more. This may be appealing to some looking for a “sure thing.”

On the other hand, previous studies have found that as people age they become less likely to attempt repeat crossings. It is possible that older cohorts of migrants are less likely to have peers that are current migrants, and therefore must turn to the services of border business coyotes to facilitate a crossing. Jaime’s experience traveling from Mexico City to the border in search of a coyote provides some context for this particular finding.

Jaime, a 50 year old recently separated male originally from Puebla, was on his way to Las Vegas, Nevada, from Mexico City, not to work, but rather to spend time with family. He has relatively little migration experience for his age—just two lifetime crossing attempts. Although Jaime had lived in the United States for nine years, that was already 15 years ago, and things along the border had changed substantially since his last crossing. He left Mexico City, where he had been working at a flower shop earning about \$720 a month, and arrived at the Nogales, Sonora, bus station and met a coyote who agreed to take him to Las Vegas for \$1,800. The coyote assembled a group of six people and began guiding the group along the border wall on the outskirts of Nogales, Sonora. Unfortunately, a few hours later Jaime and his fellow travelers, including the

coyote, were picked up by the Border Patrol while walking along a highway outside of Nogales, Arizona.

Finally, there do appear to be important differences between modes of crossing and ecological factors along the Arizona-Sonora border. For instance, people whose last crossing attempt was during a summer month were less likely to cross with an “interior” coyote in favor of a “border business” coyote. It is likely that most “interior” coyotes do not coordinate crossing attempts during hot summer months due to the increased physical risk of hyperthermia, whereas “border business” coyotes tend to live and work near the border and will take on clients all year round as long as the financial compensation is sufficient, and therefore migrants wishing to cross during summer months must rely on the services of a “border business” coyote.

There also appear to be important differences in modes of crossing according to where along the border people attempt a crossing. Specifically, migrants who last crossed through the Sonoyta corridors were more likely to have used an “interior” coyote relative to a “border business” coyote than those who crossed through Nogales. In a similar vein, people who crossed through Sasabe were more likely to have crossed with an “interior” relative to crossing with family members/friends/acquaintances than those who crossed through Nogales.

Conclusion

Increased border enforcement efforts over the past 15 years have made southern Arizona one of the most important clandestine crossing corridors along the entire U.S.-Mexico border. Yet relatively little quantitative research exists which focuses

exclusively on this area, especially when it comes to examining the mechanisms that play a role in facilitating unauthorized crossing attempts in this region. Previous studies on modes of crossing have highlighted the importance of various forms of capital in the migration process; this study is no different. Consistent with previous findings, this study found that first-hand migration experience (migration-specific human capital) seems to be the single most powerful predictor of crossing mode. One merit of this study is that I examined the relationship between first-hand migration experience and the use of specific coyote types, something that has not been done in extant quantitative studies examining the migration experience. Ultimately, results from this study suggest that more experienced migrants travel without a coyote rather than with either coyote type, or with a “border business” coyote than with an “interior” coyote. This speaks largely to the importance of lived experiences with regards to the crossing experience.

Findings from this study seem to support as well as refute results from previous work. For instance, similar to previous findings, this study suggests that women are more likely to travel with an either coyote type than with family members/friends. However, previous work has found age to be a strong predictor of mode of crossing, particularly crossing alone rather than with a coyote. Multivariate analyses used in this study found no statistically significant relationship between age and mode of crossing. One possible point of departure for future work utilizing *MBCS* data is to use Qualitative Comparative Analysis (QCA) (Ragin 1989) to examine the causal conditions that lead to migrants facilitating a crossing in one of four ways: alone, with family/friends/acquaintances (but not a coyote), with an “interior” coyote, or with a “border business” coyote. Using a

case-oriented approach would allow me to examine more precise and exhaustive conditions which lead to specific modes of crossing.

There are two important interrelated points of departure for future research based on findings from this study. The first relates to a geographical and contextual analysis of *where* migrants chose to cross, while the other is based largely on the ever-increasing overlap between *coyotaje* and organized crime along the Arizona-Sonora border. I am unable to explicitly identify the causal relationship between crossing corridor and mode of crossing because I cannot determine if people who crossed a particular way did so because of where they crossed, or if they crossed in a particular corridor due to their mode of crossing. Despite this, I did find that such an association between crossing corridor and mode of crossing exists. For example, *MBCS* respondents who crossed through the Altar/Sasabe corridor were more likely to have crossed with either an “interior” coyote that with family members/friends when compared to people who crossed near Nogales, Sonora. In a similar vein, migrants who crossed through the Sonoyta corridor were more likely to use an “interior” coyote than a “border business” coyote when compared to those who crossed through near Nogales. Ultimately, these differences may be a result of the emerging hierarchical structural and standardized nature of the coyote business in southern Arizona, as competition between drug cartels, coyotes, and border bandits has increased in this contested region, especially within the Sasabe/Altar and Nogales corridors. Ultimately, this complex matter deserves further systematic research.

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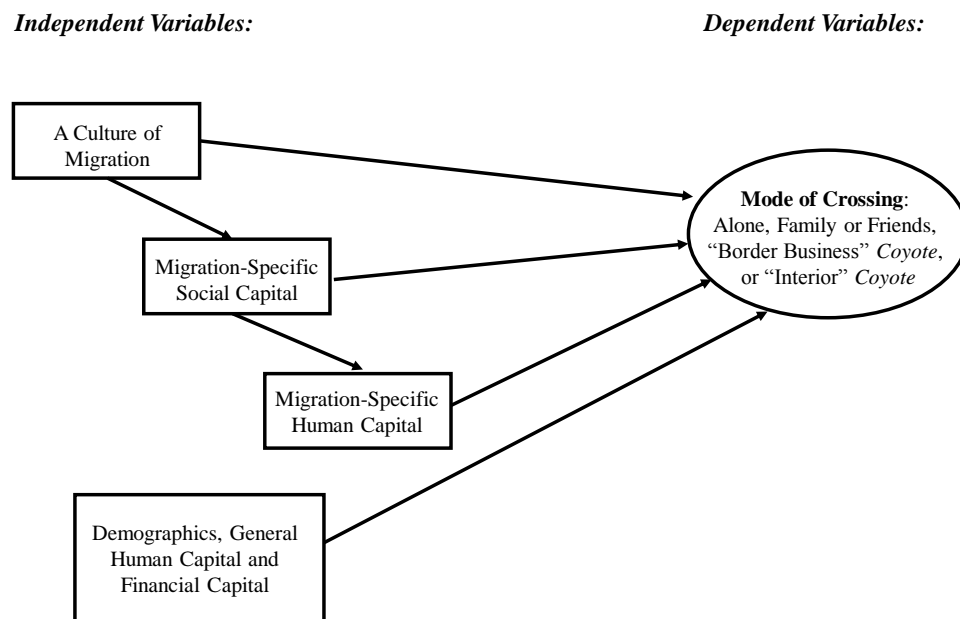
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Figures and Tables

Figure 1. Conceptual Model of Crossing Facilitation

*Adopted and expanded on from Singer and Massey 1998.

Map 1. Arizona-Sonora Borderlands and Migrant Crossing Corridors



Sources of Map: © 2012 Cnes/Spot Image, © 2012 INEGI, © 2012 Google, Image © TerraMetrics

- A. Altar/Sasabe (45%)
- B. Nogales (26%)
- C. Naco/Cananea/Agua Prieta (13%)
- D. Sonoyta (12%)
- E. San Luis Rio Colorado/Mexicali (5%)

Table 1. Descriptions and Descriptive Statistics for Dependent Variables

Variable	Mean	Std. Error.
Mode of Crossing		
<i>Alone</i>	0.08	(0.025)
<i>Family or Friends, but no Coyote</i>	0.17	(0.022)
<i>Interior Coyote</i>	0.30	(0.034)
<i>Border Business Coyote</i>	0.45	(0.037)
m = 20		
N = 415		

Source: Migrant Border Crossing Study, Wave I

Table 2. Descriptive Statistics for Key Independent Variables

Variable	Mean	(Std. Err.)
Demographics, General Human Capital, and Financial Capital		
<i>Female</i>	0.14	(0.031)
<i>Age</i>	32.19	(0.736)
<i>Years of Education</i>	7.07	(0.232)
<i>Log Household Income (in dollars)</i>	6.12	(0.097)
Migration-Specific Social Capital		
<i>Family in desired destination</i>	0.57	(0.034)
<i>Friends in desired destination</i>	0.28	(0.031)
Migration-Specific Human Capital		
<i>Number of lifetime crossings</i>	4.67	(0.385)
<i>Number of years lived in the U.S.</i>	5.11	(0.566)
Last Crossing Attempt		
<i>March/April</i>	0.25	(0.031)
<i>SummerCross</i>	0.39	(0.035)
<i>Sasabe/Altar</i>	0.45	(0.036)
<i>Nogales</i>	0.26	(0.033)
<i>Sonoyta</i>	0.12	(0.021)
<i>Naco/Cananea/Agua Prieta</i>	0.12	(0.026)
<i>San Luis Rio Colorado</i>	0.05	(0.016)
A Culture of Migration and State-level Controls		
<i>% of homes with migrants abroad</i>	4.62	(0.217)
<i>Marginalization Index Rank</i>	13.63	(0.845)
<i>MonthlyApp</i>	1428.16	(70.362)
<i>m = 20</i>		
<i>N = 415</i>		

Source: Migrant Border Crossing Study, Wave I

Table 3. Multinomial Logistic Regression Results for Modes of Crossing

Coefficient	Friends/Family vs. "Border Business" <i>Coyote</i>	Friends/Family vs. "Interior" <i>Coyote</i>	"Interior" <i>Coyote</i> vs. "Border Business" <i>Coyote</i>
Demographics, General Human Capital, and Financial Capital			
<i>Female</i>	-2.32** (0.881)	-2.29* (0.897)	-0.03 (0.523)
<i>Age</i>	-0.03 (0.022)	0.00 (0.027)	-0.04+ (0.022)
<i>Years of Education</i>	-0.06 (0.061)	-0.04 (0.067)	-0.02 (0.049)
<i>Log Household Income (in dollars)</i>	0.24 (0.208)	0.12 (0.225)	0.12 (0.195)
Migration-Specific Social Capital			
<i>Family in desired destination</i>	-0.21 (0.523)	-0.87 (0.543)	0.66 (0.449)
<i>Friends in desired destination</i>	-0.29 (0.580)	-0.92 (0.590)	0.62 (0.442)
Migration-Specific Human Capital			
<i>Number of lifetime crossings</i>	0.09* (0.043)	0.17** (0.059)	-0.08 (0.052)
<i>Number of years lived in the U.S.</i>	-0.06 (0.049)	-0.04 (0.050)	-0.02 (0.031)
Last Crossing Attempt			
<i>March/April</i>	-0.30 (0.466)	0.47 (0.525)	-0.77 (0.485)
<i>SummerCross</i>	-0.63 (0.454)	0.12 (0.500)	-0.75+ (0.388)
<i>Sasabe/Altar</i>	-0.75 (0.464)	-1.31* (0.551)	0.57 (0.510)
<i>Sonoyta</i>	0.28 (0.616)	-0.99 (0.637)	1.27* (0.646)
<i>Naco/Cananea/Agua Prieta</i>	-0.39 (0.709)	-0.86 (0.815)	0.47 (0.601)
<i>San Luis Rio Colorado</i>	0.68 (0.930)	0.21 (1.134)	0.47 (1.120)
A Culture of Migration and State-level Controls			
<i>% of homes with migrants abroad</i>	-0.04 (0.065)	-0.04 (0.022)	-0.00 (0.063)
<i>Marginalization Index Rank</i>	-0.016 (0.019)	-0.04+ (0.022)	0.02 (0.020)
<i>MonthlyApp</i>	0.00 (0.000)	-0.00 (0.000)	0.00 (0.000)
<i>m = 20</i>			
<i>N = 415</i>			

Source: Migrant Border Crossing Study, Wave I

Note: "Nogales" is the referent category

+p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001

Table A. Multinomial Logistic Regression Results for Crossing with Family or Friends vs. "Border Business" Coyote

Coefficient	Model I	Model II	Model III	Model IV
Demographics, General Human Capital, and Financial Capital				
<i>Female</i>	-2.18** (0.841)	-2.15* (0.841)	-2.13* (0.849)	-2.32** (0.881)
<i>Age</i>	-0.03 (0.020)	-0.03 (0.019)	-0.03 (0.023)	-0.03 (0.022)
<i>Years of Education</i>	-0.08 (0.054)	-0.08 (0.054)	-0.06 (0.056)	-0.06 (0.061)
<i>Log Household Income (in dollars)</i>	0.25 (0.171)	-0.26 (0.177)	0.33 (0.199)	0.24 (0.208)
Migration-Specific Social Capital				
<i>Family in desired destination</i>		-0.44 (0.449)	-0.30 (0.471)	-0.21 (0.523)
<i>Friends in desired destination</i>		-0.46 (0.544)	-0.38 (0.564)	-0.29 (0.580)
Migration-Specific Human Capital				
<i>Number of lifetime crossings</i>			0.09* (0.041)	0.09* (0.043)
<i>Number of years lived in the U.S.</i>			-0.06 (0.047)	-0.06 (0.049)
Last Crossing Attempt				
<i>March/April</i>				-0.30 (0.466)
<i>SummerCross</i>				-0.63 (0.454)
<i>Sasabe/Altar</i>				-0.75 (0.464)
<i>Sonoyta</i>				0.28 (0.616)
<i>Naco/Cananea/Agua Prieta</i>				-0.39 (0.709)
<i>San Luis Rio Colorado</i>				0.68 (0.930)
A Culture of Migration and State-level Controls				
<i>% of homes with migrants abroad</i>	-0.02 (0.055)	-0.01 (0.057)	-0.02 (0.058)	-0.04 (0.065)
<i>Marginalization Index Rank</i>	-0.00 (0.018)	-0.00 (0.018)	-0.01 (0.018)	-0.016 (0.019)
<i>MonthlyApp</i>	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)

m = 20

N = 415

Source: Migrant Border Crossing Study, Wave I

Note: "Nogales" is the referent category

+p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001

Table B. Multinomial Logistic Regression Results for Crossing with Family or Friends vs. "Interior" Coyote

Coefficient	Model I	Model II	Model III	Model IV
Demographics, General Human Capital, and Financial Capital				
<i>Female</i>	-2.55** (0.887)	-2.48** (0.887)	-2.24* (0.878)	-2.29* (0.897)
<i>Age</i>	0.01 (0.023)	0.01 (0.023)	0.00 (0.026)	0.00 (0.027)
<i>Years of Education</i>	-0.04 (0.06)	-0.04 (0.065)	-0.02 (0.066)	-0.04 (0.067)
<i>Log Household Income (in dollars)</i>	0.19 (0.186)	0.20 (0.192)	0.02 (0.214)	0.12 (0.225)
Migration-Specific Social Capital				
<i>Family in desired destination</i>		-1.01* (0.482)	-1.02* (0.500)	-0.87 (0.543)
<i>Friends in desired destination</i>		-1.00+ (0.003)	-1.08+ (0.578)	-0.92 (0.590)
Migration-Specific Human Capital				
<i>Number of lifetime crossings</i>			0.18** (0.055)	0.17** (0.059)
<i>Number of years lived in the U.S.</i>			-0.02 (0.047)	-0.04 (0.050)
Last Crossing Attempt				
<i>March/April</i>				0.47 (0.525)
<i>SummerCross</i>				0.12 (0.500)
<i>Sasabe/Altar</i>				-1.31* (0.551)
<i>Sonoyta</i>				-0.99 (0.637)
<i>Naco/Cananea/Agua Prieta</i>				-0.86 (0.815)
<i>San Luis Rio Colorado</i>				0.21 (1.134)
A Culture of Migration and State-level Controls				
<i>% of homes with migrants abroad</i>	-0.02 (0.064)	0.00 (0.066)	-0.03 (0.067)	-0.04 (0.022)
<i>Marginalization Index Rank</i>	-0.02 (0.022)	-0.02 (0.022)	-0.02 (0.021)	-0.04+ (0.022)
<i>MonthlyApp</i>	-0.00 (0.000)	-0.00 (0.000)	-0.00 (0.000)	-0.00 (0.000)

m = 20

N = 415

Source: Migrant Border Crossing Study, Wave I

Note: "Nogales" is the referent category

+p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001

Table C. Multinomial Logistic Regression Results for Crossing with Interior vs. "Border Business" Coyote

Coefficient	Model I	Model II	Model III	Model IV
Demographics, General Human Capital, and Financial Capital				
<i>Female</i>	0.36 (0.542)	0.33 (0.549)	0.11 (0.527)	-0.03 (0.523)
<i>Age</i>	-0.05* (0.021)	-0.05* (0.021)	-0.32 (0.021)	-0.04+ (0.022)
<i>Years of Education</i>	-0.04 (0.057)	-0.04 (0.057)	-0.039 (0.17)	-0.02 (0.049)
<i>Log Household Income (in dollars)</i>	0.06 (0.180)	0.06 (0.183)	(0.200)	0.12 (0.195)
Migration-Specific Social Capital				
<i>Family in desired destination</i>		0.57 (0.439)	0.71 (0.700)	0.66 (0.449)
<i>Friends in desired destination</i>		0.53 (0.457)	0.70 (0.450)	0.62 (0.442)
Migration-Specific Human Capital				
<i>Number of lifetime crossings</i>			-0.08+ (0.050)	-0.08 (0.052)
<i>Number of years lived in the U.S.</i>			-0.04 (0.028)	-0.02 (0.031)
Last Crossing Attempt				
<i>March/April</i>				-0.77 (0.485)
<i>SummerCross</i>				-0.75+ (0.388)
<i>Sasabe/Altar</i>				0.57 (0.510)
<i>Sonoyta</i>				1.27* (0.646)
<i>Naco/Cananea/Agua Prieta</i>				0.47 (0.601)
<i>San Luis Río Colorado</i>				0.47 (1.120)
A Culture of Migration and State-level Controls				
<i>% of homes with migrants abroad</i>	-0.00 (0.063)	-0.01 (0.063)	0.01 (0.063)	-0.00 (0.063)
<i>Marginalization Index Rank</i>	0.01 (0.020)	0.01 (0.020)	0.02 (0.019)	0.02 (0.020)
<i>MonthlyApp</i>	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)
<i>m = 20</i>				
<i>N = 415</i>				

Source: Migrant Border Crossing Study, Wave I

Note: "Nogales" is the referent category

+p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001

APPENDIX B: VARIATION IN COYOTE FEES AMONG UNAUTHORIZED
MIGRANTS IN SOUTHERN ARIZONA

Prepared to be submitted to *International Migration Review*

Abstract

This article utilizes survey data (n = 415) collected in the *Migrant Border Crossing Study* (MBCS) to examine whether or not *coyote* (guide) fees vary among people who rely on smuggling services to cross the border. If so, what accounts for this variation? As in previous migration studies, I examine how various migrant demographic characteristics, and measures of general human capital, social capital, and migration-specific human capital impact smuggling fees. I also turn to the extant understanding of risk tolerance/aversion to examine this relationship. Further, I contribute to the scholarly discussion in multiple ways. First, I empirically test the role of a “culture of migration” in explaining coyote fees net of individual factors. Second, I examine the extent to which traveling with a “border business” coyote and the region of a person’s desired destination in the United States act as intervening factors in explicating variation in coyote fees. Overall, there are important differences in fees paid to smugglers. The strongest predictor of higher smuggling fees is attempting to reach a destination in the Northeastern or South/Mid-Atlantic United States. Higher coyotes fees are also explained by greater levels of formal education, being married, being the sole economic provider for one’s household, and higher household income. Migrants with more crossing experience and those crossing in larger groups or during the summer also pay higher fees. Fees do not

vary by gender, age, or social capital. These findings are generally consistent with the literature on human capital and risk tolerance/aversion, but run counter to the vast migration literature emphasizing the importance of gender, age, and social capital in the migration process. Implications and possible future research are also discussed.

Introduction

Do the fees migrants pay coyotes to facilitate a crossing across the Sonora-Arizona border vary? If so, what factors best explain this variation? Do fees vary according to migrant demographic characteristics such as gender, age, income, and education? What role, if any, do previous migration experience, ties to people in the United States, and a “culture of migration” in a migrant’s state of origin play in determining fees? Do other contextual factors matter? That is do fees vary by group size, time of the year, the type of coyote one uses, manner of crossing, or the amount of time migrants are told it would be necessary to cross? Addressing these questions can offer greater insight into the sociological understanding of unauthorized migration—notably how people understand and navigate a potentially risky and dangerous endeavor such as a clandestine border crossing attempt.

The bulk of quantitative research on using a coyote or guide to cross the U.S.-Mexico border has focused on how fees and the demand for smuggling services have increased as a consequence of heightened border enforcement efforts over the past two decades. Few studies have used multivariate methods to explain variation in coyote fees, and only one has attempted to explain the relationship between individual level factors and the price of smuggling services (Parks, Lozada, Mendoza, and Garcia Santos 2009). Further, the majority of aforementioned studies have come from one of two data sources: the Mexican Migration Project (MMP) or the Mexican Migration Field Research Program (MMFRP)—both of which have their own limitations. Neither of these data

sources is particularly well-suited make generalizations about unauthorized crossing attempts through southern Arizona.

The present article draws on the first wave of the Migrant Border Crossing Study (MBCS) (n = 415) to examine how coyote fees vary among respondents. The MBCS is a unique data source that provides extensive information on the experiences of unauthorized migrants who attempted a border crossing through the Sonora-Arizona border. What distinguishes the MBCS from other data sources is that it was carried out after the majority of enforcement efforts had materialized in a geographical area where nearly one-third of all unauthorized border crossings currently take place. In addition, the MBCS includes respondents from diverse areas and backgrounds throughout Mexico. Using the MBCS to systematically examine variation in coyote fees allows me to test and refine existing theories about how people attempt to manage risks associated with crossing the border.

I begin with a review of the literature on how heightened border enforcement efforts have led to an increased demand in coyote services and higher coyote fees. I then draw on findings from previous studies examining modes of crossing and risk tolerance/aversion to theoretically frame how gender, human capital, social capital, and a “culture of migration” might affect the fees migrants pay coyotes. I then describe how migrants and their families have typically financed and paid what have become relatively high smuggling fees.

Literature Review

The Impact of Border Enforcement on Coyote Fees and Coyote Use

The scholarship on coyote fees has overwhelmingly focused on the impact of increased border enforcement on the demand for smuggling services, measured as the prevalence of coyote use, and subsequent increases in smuggling fees over time. The general consensus in the migration literature is that border enforcement efforts have either increased or kept rates of coyote use high, while also increasing smuggling fees (Orrenius 2001; Cornelius 2001; Massey, Durand, and Malone 2002; Kimball, Acosta, and Dames 2007; Gathmann 2008; Hagan 2008; Parks, Lozada, Mendoza, and Garcia Santos 2009; Spener 2009; Hicken, Cohen, and Narvaez 2010).

Although coyote fees have increased substantially throughout the post-Gatekeeper era, there have been periods in the past characterized by relatively high fees despite lack border security. Drawing on data collected through the *Mexican Migration Project* (MMP), Orrenius (2001) illustrates that coyote prices actually decreased substantially from the late 1960s through the early 1990s. In 1965 the median going rate for a coyote was around \$900 (in 1994 dollars), but by 1994 it had fallen to just over \$300 across the border (Orrenius 2001). The end of the Bracero Program (1942-1964) is an important historical benchmark for tracking coyote fees. In 1965 the demand for coyotes relative to the supply increased substantially as former Braceros essentially became “undocumented” overnight due to the termination of the program. Although short-lived, this market imbalance led to relatively high coyote prices. In fact, prices in the late 1960s ranged from \$700 to \$900 (in 1994 dollars)—rates that would not be seen again until well

after the border buildup during the mid-1990s. Smuggling fees, however, fell throughout the 1970s and 1980s for two reasons: “the development of infrastructure,” including roads, rail, and the growth of border cities, as well as “free entry into the coyote industry” (Orrenius 2001, 5). As more people gained first-hand crossing experience between 1965 and the 1980s they were able use rely on their own experiences to not only cross on their own, but also assist other aspiring, inexperienced migrants in their unauthorized crossings attempts. Relatively low enforcement levels during the 1960s, 1970s, and 1980s meant there were with relatively few barriers to entry to engage in what Spener (2009) calls *coyotaje*, or human smuggling activities (Orrenius 2001).

The U.S.-Mexico border underwent unprecedented increases in enforcement levels throughout the 1990s and 2000s (Andreas 1998; 2001). In 1992 there were fewer than 4,000 Border Patrol agents in southwestern border sectors; by 2012 there were over 18,500 agents in the same area (U.S. Customs and Border Protection 2013). One of the many consequences of heightened border security has been the notable increase in coyote fees. Border enforcement efforts have led to an increase in demand for smuggling services, and as the demand for these services has increased, “so have the fees that coyotes can command” (Parks, Lozada, Mendoza, and Garcia Santos 2009, 51).

Much like the end of the Bracero Program in 1964, the implementation of the federal government’s Operation Hold the Line in the El Paso Sector of the Border Patrol, which is considered by many scholars to be the dawn of current border militarization efforts (Dunn 1996; 2009; Andreas 1998, 2000; Cornelius 2001; 2005; 2006; Rubio-Goldsmith, McCormick, Martinez, and Duarte 2006), also proves to be an important time

period for tracking fluctuations in coyote fees. Drawing on data from the *Mexican Migration Field Research Program* (MMFRP), Wayne Cornelius (2001) found coyote fees tripled, and in some cases even quadrupled border-wide between 1993 and the turn of the century (as noted by Park, Lozada, Mendoza, and Garcia Santos 2009, 51). In a similar vein, Massey, Durand, and Malone (2002) examined MMP data and found a positive correlation between U.S. Border Patrol “linewatch hours” and coyote fees. In other words, increased Border Patrol visibility near the actual international divide was associated with an increase in smuggling fees. Also relying on MMP data, Gathmann (2008) found that coyote prices tripled from \$400 in 1986, to nearly \$1,200 in 2003, a finding that is consistent with that of Cornelius’ assessment despite having been generated by a different data source.

Information gathered through a series of recent studies under the hospice of the MMFRP since Cornelius’ (2001) account further supports the connection between heightened border security and coyote fees. In their examination of two migrant-sending communities in the Mexican states of Zacatecas and Jalisco, Fuentes, L’Esperance, Perez, and White (2007) documented a large increase in the fees migrants paid to coyotes over a nearly two-decade period. For example, the median cost of a coyote among those who crossed between 1982 and 1993 was \$924 (in 2004 dollars), but had increased to \$1,783 among those who made the journey between 2002 and 2004 (Fuentes, L’Esperance, Perez, and White 2007).

Another multi-year study conducted in a migrant-sending community in Yucatan, Mexico as part of the larger MMFRP found smuggling fees increased from a median of

around \$400 in 1993 to \$1,600 for those who crossed between 2000 and 2006 (Kimball, Acosta, and Dames 2007). By 2009 migrants in this same community paid over \$2,000 per trip (Hicken, Cohen, and Narvaez 2010). A different MMFRP survey carried out in Oaxaca, Mexico, found that payments to coyotes increased “by five percent per year on average, controlling for inflation” (Parks, Lozada, Mendoza, and Garcia Santos 2009, 51), with the average coyote fee increasing from around \$980 in 1995 to \$2,124 in the 2005-2007 time period.

In addition to focusing on increasing fees, scholars have also paid notable attention to the prevalence of coyote use among migrants over time—a measure that has been used as a proxy for the demand for coyote use. MMP data confirm that the rate of coyote use increased substantially following the end of the Bracero Program, having gone from around 40% of migrants relying on coyotes in 1965 to over 70% in the late 1970s, but then decreasing briefly to around 60% during the early 1980s (Orrenius 2001; Massey, Durand, and Malone 2002). The prevalence of coyote use steadily increased again throughout the 1980s, and then spiked after border enforcement initiatives began to materialize in the mid-1990s (Orrenius 2001; Hanson 2006). As noted, the increase in demand for coyote services between 1965 and 1980s led to a decrease in coyote fees. However, increased enforcement efforts during the 1990s not only kept the demand for coyotes high, but also led to higher crossing costs, including the price of smuggling services (Gathmann 2008).

The general upward trend in rates of coyote use again appears to be confirmed by various community-level studies conducted by MMFRP researchers. The work by

Fuentes and colleagues in Zacatecas and Jalisco found rates of coyote use increased from 70% among those who crossed between 1967 and 1992 to nearly 90% among those who crossed between 1993 and 2004 (Fuentes, L'Esperance, Perez, and White 2007). A different MMFRP survey carried out in Oaxaca, Mexico found that the percent of respondents using coyotes increased from about 70% in 1995-1996 to over 80% in 2000-2004 (Parks, Lozada, Mendoza, and Garcia Santos 2009). Yet another MMFRP study found nearly 90% of migrants in Tunka, Yucatan relied on a coyote during their last crossing between 2000 and 2005, which was slightly higher than the rate of coyote use among community members in the 1994-1999 time period (Kimball, Acosta, and Dames 2007). The community case-study approach is one limitation of MMFRP data—findings can only be used to generalize to the specific community being examined. However, when the findings across each community are considered side-by-side, the changes in coyote fees and rates of coyote use point to a clear upward trend over the past two decades.

Other data sources such as the MMP, the MBCS, and the *Encuesta Sobre Migración en la Frontera (EMIF)*, which is conducted annually by *El Colegio de la Frontera del Norte (COLEF)* and various entities within the Mexican federal government, provide information on the experiences of a broader range of migrants from across Mexico when compared to those surveyed by MMFRP researchers. These data sources can be used to not only examine changes in fees and rates of coyote use over time, but also to get a better sense of the prevalence of contemporary coyote use on a broader scale. For example, one of the seminal quantitative assessments on crossing

modes found that 70% respondents reported utilizing a coyote to cross the border (Singer and Massey 1998). This study drew on MMP data consisting of surveys with male heads of households in 34 communities throughout Mexico, representing 4,967 lifetime trips between 1967 and 1994.

A more recent study using updated MMP data from 107 Mexican communities found 79% of male heads of households ($n = 5,952$) and 81% of female heads of households ($n = 170$) utilized a coyote during their lifetime migration trips through 2004 (Donato, Wagner, and Patterson 2008). A different study using new and unique MBCS data to examine crossing modes in southern Arizona between 2007 and 2009 found that 72% of respondents relied on coyote services during their most recent crossing attempt (Martinez n.d.). This figure is consistent with the 73% found in a subset of survey data ($N = 5,778$) collected among recently repatriated migrants by researchers in northern Sonora, Mexico as part of the EMIF during the same time period and in the same region (EMIF 2009)

Although the exact increase in dollar amount and growth rates of coyote fees vary across studies and by the community examined, the consensus in the literature is clear: coyote fees dropped between 1965 and the 1980, but then increased substantially after border enforcement initiatives in the mid-1990s. Similarly, the rate of coyote use increased steadily from the 1960s through the late 1980s, but then grew much more rapidly and has remained high during the post-Gatekeeper era.

Individual Level Factors and Coyote Fees

Elevated border security measures have not only increased the demand for coyotes and smuggling fees, but have also forced guides to adapt and develop “more complex crossing strategies to circumvent border enforcement operations” (Hagan 2008, 76). Different smuggling services vary by the degree of difficulty, risk of detection, and whether or not others need to be compensated for services such as the use of valid or falsified border crossing documents, transportation, or shelter in drop-houses (see Spener 2009 for an in-depth account of various coyote services). It is not uncommon for people to “report several different modes of entry on the same trip” (Hicken, Cohen, Narvaez 2010, 65). One of Hicken and colleagues’ respondents mentions that in 2008 he and his wife “crossed with forty-five people. Four times they tried to cross through Tijuana, then tried crossing in a truck across Mexicali, but were caught, then used another coyote who crossed them through the sewer” (Hicken, Cohen, Narvaez 2010, 65). The respondent was likely quoted different rates by each coyote according the manner of crossing.

Spener’s work also reveals that:

Migrants who knew of the suffering experienced on the treks through the South Texas brush country might find the prospect of spending three or four hours in a truck much more attractive than walking through the brush for three of four days, even if they had to pay considerably more for this type of service and pay a substantial portion of it upfront (2009, 142).

Overall, the most cost-effective way to cross the border continues to be walking or swimming through remote, uninhabited areas (Gathmann 2008; Parks, Lozada, Mendoza, and Garcia Santos 2009). MMFRP research conducted in Tlactepec, Oaxaca found that “walking across the border with a coyote is substantially cheaper (56 percent

less) than crossing by other methods, such as paying for false or borrowed documents to pass through a legal port of entry” (Parks, Lozada, Mendoza, and Garcia Santos 2009, 52). Considering these findings, I expect coyote fees to also vary among MBCS respondents according to manner of crossing. Thus, my formal hypothesis is as follows:

H1: Migrants who cross the border walking through remotes areas pay lower fees than those who rely on other manners such as crossing though ports of entry using false documents, being hidden in the compartment of a vehicle, or utilizing an underground tunnel.

The size of the group a migrant travels in may also impact the fees he or she must pay, although theorizing the relationship between these factors can be challenging.

Ceteris paribus, coyotes stand to generate relatively less revenue from leading smaller groups of migrants and would therefore be forced to charge higher fees to smaller groups to help offset foregone revenue. In fact, one qualitative study of coyotes in the northeastern Mexican state of Tamaulipas found that coyotes typically do not guide very small groups because they are simply not profitable enough (Izcara Palacios 2011).

Thus, there likely exists a negative relationship between the size of a respondent’s group and the fee they agreed to pay their coyote. At the same time, this study noted coyotes generally avoid smuggling very large groups because it would require more coordination with and the payment of bribes to U.S. Customs and Border Protection officials, which ultimately translates into higher costs (Izcara Palacios 2011). Even if a smuggling operation does not rely on corrupt U.S. authorities, it is likely that crossing with more people increases the risk of being detected by U.S. authorities, therefore increasing the costs associated with transporting larger groups.

The type of coyote one uses may also affect the fees migrants pay. Izcara Palacios (2011) found the size of the group coyotes guided across the border did not appear to differ between informal, small-scale operations and more business-like large-scale formal operations (Izcara Palacios 2011). What appeared to differ was the frequency of crossings, with the more formal business-like operations making a higher number of trips per year. An exception is the case of more sophisticated smuggling networks that rely on tractor-trailers to cross migrants, which normally cross large groups, charge higher fees, and make fewer crossing attempts (Spener 2009). The notion that informal smugglers generally cross fewer times throughout the year may suggest that they, too, need to charge higher fees to offset the cost of making fewer trips per year.

Yet previous qualitative work finds that “border business” coyotes utilize more sophisticated methods to smuggle people, including renting or selling false documents, and tend to charge the highest fees and transport the most people throughout the year, while “local-interior” coyotes cross few migrants at a time, are the most trusted, and charge the least (Spener 2009; Lopez Castro 1998 as cited by Fuentes, L’Esperance, Perez, and White 2007, 63). In addition, Izcara Palacios (2011) finds that relatively more “informal” smuggling operations typical attempt to avoid paying quotas associated with crossing through zones controlled by drug trafficking organizations, therefore slightly decreasing the cost of each crossing attempt. In line with previous qualitative studies, notably the work of Lopez Castro (1998), Spener (2009), and Izcara Palacios (2011), my hypotheses regarding the relationship between group size, coyote type, and smuggling fees are as follows:

H2: Migrants who travel in smaller groups, on average, pay higher fees than those who cross in relatively larger groups.

H3: Migrants who utilize the services of “border business” coyotes pay higher fees than those who rely on “interior” coyotes.

The time of year a person attempts a crossing may also impact the price of smuggling services. One could argue that attempting an unauthorized crossing through southern Arizona is most physically risky during summer months when temperatures frequently exceed 110 degrees Fahrenheit in the Sonoran desert, with June, July, and August being particularly dangerous. Therefore the going rate to coyote is likely higher during months to compensate for the increased risk of crossing.

H4: People who cross during summer months pay higher fees than those who travel during other times of the year.

The region of a migrant's desired destination may also affect the price they pay to be smuggled into the United States. For instance, people wanting to migrate to the Northeast, Midwest, or Mid-Atlantic may be required to pay higher fees than those traveling to a destination in the western United States. I believe two factors help explicate the relationship between coyote fees and the region of a person's desired destination in the United States: the distance a person must travel to arrive at their destination and the extent of the social networks they are able to draw on. The fee-distance connection is quite simple. Longer distances required to travel from the border and one's destination not only carry higher transportation costs, but also an increased the risk of apprehension while in transit. The more time a smuggling crew spends on the road, the greater the chance of them being stopped and questioned by U.S. authorities.

The extent to which the migrant network is developed in one's desired destination may also impact coyote fees. More established social networks have been found to lower people's social costs throughout the entire migration process (Massey et al 1987; Massey et al 1993; Espinoza and Massey 1997; Singer and Massey 1998; Donato and Patterson 2004; Donato, Wagner, and Patterson 2008). The extensiveness and strength of migrant networks likely varies across the United States according to historical and social factors, notably the presence and growth of the foreign born population in a given area. For instance, a recent study from the Brookings Institute identified a number of metropolitan areas throughout the country, especially in the South and Mid-Atlantic, as "emerging gateway" or "pre-emerging gateway" destinations. "Emerging gateway" metropolitan areas are areas that "had small immigrant populations for most of the 20th century, but their foreign born populations grew faster than the national rate during one of the last three decades of the 20th century, and their immigrant population share has exceeded the national average since 1990" (Hall, Singer, De Jon, and Graefe 2011, 11). Similarly, "pre-emerging gateway" areas "have little historical record of receiving immigrants, but in recent decades have experienced extraordinary growth in their foreign-born populations" likely tied to the demand for low-skill immigrant labor in certain sectors of the economy (Hall, Singer, De Jon, and Graefe 2011, 11). "These destinations, such as Greensboro and Nashville have smaller immigrant populations than the other 21st century gateways and immigrant growth has occurred more recently (since 1990). But immigrant growth has been much faster—at least three times the national average" (Hall, Singer, De Jon, and Graefe 2011, 11). Considering the recent growth of the foreign born

in emerging and pre-emerging gateway areas, it is likely that migrant social networks in these communities are not yet sufficiently established and extensive to significantly decrease the costs of the migration process. Further, the rapid growth of the foreign born population in this region suggests a relatively higher economic and social desire or demand to settle in the area. Considering these factors, I hypothesize the following relationships between a person's desired destination and coyote fees.

H5: Migrants with desired destinations further from the Sonora-Arizona border pay higher fees than those traveling to areas closer to the border.

H6: Migrants traveling to regions characterized as "pre-emerging" or "emerging gateways" will pay higher fees than those traveling to areas with well-established migrant streams.

Coyote Fees and Human Capital, Social Capital, and "A Culture of Migration"

The general consensus in the migration literature is that migrants rely on the services of coyotes to lower risks during unauthorized crossing attempts—notably the probability of apprehension and the risk of physical injury or death (Singer and Massey 1998; Donato and Patterson 2004; Fuentes, L'Esperance, Perez, and White 2007; Kimball, Acosta, and Dames 2007; Donato, Wagner, and Patterson 2008; Hagan 2008; Parks, Mendoza, and Garcia Santos; Spener 2009; Hicken, Cohen, and Narvaez 2010). Research also finds that the likelihood of relying on a coyote varies according to gender, age, and previous migration experience.

Research has found notable differences between men and women in terms of their modes of crossing. Women have traditionally tended to rely on family members residing in the United States to facilitate a crossing and have been more likely to cross with others

than by themselves (Cerrutti and Massey 2001; Donato and Patterson 2004; Hagan 2008; Valdez-Suiter, Rosas-Lopez, and Pagaza 2007), but one recent study found no difference between men and women in modes of crossing (Donato, Wagner, and Patterson 2008). Gender differences in crossing modes may be changing as the prevalence and frequency of immigration increases among women. Donato, Wagner, and Patterson (2008) suggests that as both men and women acquire first-hand migration experience, they tend to rely less on the use of coyotes and are less likely to cross with others relative to crossing alone (Donato, Wagner, and Patterson 2008). Yet other studies maintain that the “culture of migration” remains gendered in Mexico (Wilson 2010). A more recent study using survey data collected along the Sonora-Arizona border found women were more likely to cross with either “border business” or “interior” coyotes than with family/friends (Martinez n.d.), lending support to prior finding that women are more likely to rely on the services of human smugglers. Findings pertaining to age and previous migration experience seem to be more definitive, with more experienced and younger migrants being more likely to migrate alone than with family or friends (Singer and Massey 1998) or with a coyote (Singer and Massey 1998; Donato and Patterson 2004; Donato and Patterson 2008).

The difference in modes of crossing between men and women lies in more restrictive gender norms and expectations of women, and a gendered “culture of migration” in Mexico (Wilson 2010), whereas the findings pertaining to age and previous migration experience have framed from human capital perspective. These findings can also be understood in terms of risk tolerance/aversion according to gender, age, and

“knowledge.” The consensus in the scholarly literature is that women tend to be more risk averse than men, especially when it comes to taking physical risks (Hagan, Simpson, and Gillis 1988; Keane Gillis, and Hagan 1989, Zuckerman, Ball, and Black 1990; Miller and Hoffman 1995; Hartog et al. 2000; Roth and Kroll 2007; Jaeger et al. 2007; Collett and Lizardo 2009), while risk tolerance tends to decrease as people age (Donkers et al. 1999; Dohmen et al. 2005; Williams and Baláž 2011)—something that appears to be consistent with generalizations made in the study of delinquency and crime (Gottfredson and Hirschi 1990; Moffitt 1993; Kazemian and Farrington 2006).

There also appear to be differences in risk tolerance/aversion according to education or the acquisition of knowledge, with more educated people being more willing to take risks (Dohmen et al 2005; 2006; Jaeger et al 2007; Williams and Baláž 2011). Increased migration experience can be seen as a type of knowledge acquisition, which explains why people rely on coyotes less with the accumulation of migration experience. Although the risk of apprehension or death may still be present, greater crossing experience leads to less uncertainty about the journey itself, which increases the likelihood of attempting it alone. The literature on modes of crossing—framed from the gender, human capital, and risk tolerance/aversion perspectives—can offer substantial insight into how smuggling fees vary by individual level migrant characteristics.

A handful of quantitative studies have explained variation in migrants’ modes of crossing, but there exists a dearth in the use of multivariate methods to examine how coyote fees vary. Gathman (2008) did use a multivariate analysis examine variation in smuggling fees, but her main objective was to determine the impact border enforcement

measures have had fees, and therefore she did not theorize individual level differences according to gender, human capital, or social capital. Parks, Lozada, Mendoza, and Garcia Santos (2009) also utilized a multivariate analysis to examine variation in coyote fees and found that fees were lower for people who walked across the desert and higher for those had attempted a crossing in more recent years. In other words, this finding is consistent with previous studies which suggest coyote fees are higher for more sophisticated manners of crossing (e.g., buying or renting false documents or crossing hidden in a vehicle) and have increased over time as a direct result of increased border enforcement measures and a higher demand for smuggling services (Parks, Lozada, Mendoza, and Garcia Santos 2009).

Gender and age, on the other hand, did not significantly explain variation in coyote fees in Parks and colleagues' analysis. This null finding is especially interesting considering that previous qualitative and quantitative studies alike have consistently shown that gender and age are important factors that play significant roles in the immigration process (Hagan 2008; O'Leary 2009; Singer and Massey 1998; Donato and Patterson 2004; Donato, Wagner, and Patterson 2008). Nevertheless, the results of the Parks et al. (2009) study should be interpreted with caution, as their study was limited to 146 respondents in one village in Oaxaca, Mexico, and therefore can likely only generalize to that specific community.

I assume that higher coyote fees as are associated with less risky crossing attempts, net of all other factors. In light of the aforementioned factors regarding the

roles of gender, age, and the importance of experience in the migration process, as well as extant knowledge on risk tolerance/aversion, I hypothesize the following:

H7: Women and older migrants, on average, pay higher smuggling fees than men and younger migrants.

H8: More experienced migrants and better educated migrants, net of all other factors, pay lower fees than less experienced migrants.

The immigration literature has also highlighted the importance of social capital in the migration process. Typically, social capital has been operationalized as ties to family members or friends in the United States that have previously migrated (Cerrutti and Massey 2001; Donato and Patterson 2004; Hagan 2008; Valdez-Suiter, Rosas-Lopez, and Pagaza 2007). Much like previous migration experience, social networks also play a significant role in influencing how a person attempts a crossing. Studies have found that when controlling for all other factors, migrants with more extensive migration-specific social capital are more likely to cross with a coyote when compared to migrants lacking this type of capital (Singer and Massey 1998; Donato, Wagner, and Patterson 2008). Thus, it appears that migrants with close ties to people in the United States are drawing on those relationships to secure the services of a coyote when compared to migrants who lack such ties.

Although previous studies have noted the importance of social capital, specifically ties to family members or friends, as a means to reduce costs and risk during the migration process (Singer and Massey 1998; Aguilera and Massey 2003; Massey, Durand, and Malone 2002; Donato and Patterson 2004; Donato, Wagner, and Patterson 2008), it is unclear whether this type of capital affects smuggling fees, and if so, does it

do so positively or negatively? It is possible that lower smuggling fees may not necessarily be viewed positively. People may perceive more cost-effective smuggling strategies are being associated with a higher probability of apprehension, abandonment, and injury. On the other hand, it is just as plausible that people with access to well-development migration networks in the United States could draw on these ties to secure cost-effective, yet high quality smuggling services. In one of the few studies using multivariate analysis to examining variation in coyote fees Parks, Lozada, Mendoza, and Garcia Santos (2009) found that the way in which a person met their coyote (i.e., whether or not through a family member or friend) did not explicate variation in smuggling fees—a finding that arguably runs counter to previous studies citing the cost-cutting qualities of social networks. However, as previously mentioned, the results of the analysis likely only generalize to the specific community where Parks and colleagues carried out their study, not to mention the connection between social networks and smuggling fees is far from clear and rather under-theorized. In light of the complexities in theorizing the connections between smuggling fees and social capital, as well as the limited understanding of this relationship in the extant literature, I hypothesize the following:

H9: Social capital will not be significantly associated variation in smuggling fees.

Data collected through the MMFRP show variation in coyote fees across migrant-sending communities in the states of Jalisco, Zacatecas, Yucatan, and Oaxaca (Kimball, Acosta, and Dames 2007; Fuentes, L'Esperance, Perez, and White 2007; Parks, Lozada, Mendoza, and Garcia Santos 2009; Hicken, Cohen, and Narvaez 2010). Prior research has also notes cultures of migration vary across states throughout Mexico, with

communities in West-Central Mexico having a longer history of migration dating to before the Bracero Program (Massey et al 1987; Massey, Durand, and Malone 2002; Alanís 2002; Kandel and Massey 2002; Durand and Massey 2003), and communities in southern Mexico having a more recent migration tradition dating to around the implementation of the North American Free Trade Agreement (Marcelli and Cornelius 2001, for exception see Cornelius, Fitzgerald, Hernandez-Dias, Borger 2009).

Few studies have systematically examined variation in coyote fees at the individual level, and none have attempted to parse out individual differences from community level ones using quantitative methods. Quantitative migration scholars need to consider the historical context and culture of migration in people's community of origin, as doing so will help parse out variation in coyote fees explained by individual level differences in migration-specific human capital (e.g., prior migration experience) and social capital (e.g., strong ties in the United States) from community level variation. I believe that people from communities in states with a longer and more established culture of migration will have access "migration-specific cultural capital," community-level stores of knowledge, or other social resources pertaining to the migration process that are difficult to observed and measure at the individual level. Thus, all else constant, I hypothesize that:

H10: People from states with a more pronounced "culture of migration" will pay lower smuggling fees.

After a systematic review of the literature regarding the roles of gender, human capital, and social capital in the migration process, and the general consensus on risk tolerance/aversion, I created the following conceptual model to better understand how

variation in coyote fees can be understood. I created the model by adopting and expanding on a conceptual model provided in Singer and Massey's (1998) seminal work on modes of crossing. I anticipate that a person's mode of crossing and the region of their desired destination in the United States will be important mediating or intervening factors in explaining variation in coyote fees. Human capital, social capital, and a "culture of migration" will each all indirectly affect coyote fee through mode of crossing and desired destination, while demographic factors, season, and group size will both directly and indirectly impact coyote fees via mode of crossing. I must emphasize that the model does not represent a path or factor analysis in the conventional sense. Rather, I simply provide figure 1 as visual illustration of what I perceive to be the relationship between various explanatory factors and coyote fees based on a review of the literature.

I have provided a thorough review of the factors that have been shown to contribute to the variation in coyote fees. However, it is also important to have an understanding of how payments to coyotes are arranged, and how this process may serve as a mechanism of social control protecting migrants against abuse, exploitation, or abandonment during the journey. The following section briefly highlights the literature discussing the means migrants have used to finance unauthorized crossings and how payments are normally made to migrant smugglers.

Paying Coyote Fees

Coyote fees have varied substantially across time, vary according to individual and community level context, and have increased exponentially as coyotes have had to

either find more novel crossing strategies or venture into more remote areas and cross for longer periods of time to avoid detection by U.S. authorities. Today, border crossing fees can exceed well over \$2,000 for Mexican migrants (Parks, Lozada, Mendoza, and Garcia Santos 2009; Hicken, Cohen, and Narvaez 2010) and be upwards of \$8,000 for Central Americans (Hagan 2008). This, in turn, leads to two very important questions: how do migrants finance smuggling fees, and how are payments made to coyotes?

Increased border enforcement efforts have resulted in higher crossing costs which have ultimately been passed down to migrants and their families. Smuggling fees can be a substantial financial burden for many families, especially those from relatively more marginalized areas or with few contacts in the United States to from which to draw on. In fact, the mean coyote fee among MBCS respondents was around \$1,650—nearly four times respondents’ mean household income. So how do migrant finance crossing attempts? Some studies have found that employers in the agriculture sectors front the money for crossing fees (Izacara Palacios 2011), but the most common practice is for migrants to borrow money from either family members or friends in sending communities or in their desired destinations (Kimball, Acosta, and Dames 2007; Spener 2008; Hagan 2008; Hicken, Cohen, and Narvaez 2010; Izacara Palacios 2011). For example, Hicken, Cohen and Narvaez (2010) found that 71% of respondents who used a coyote on their most recent crossing attempt borrowed money from a family member or friends to pay the coyote. In some cases, “to pay the coyote, families of prospective migrants often put their home up for collateral” (Hagan and Ebaugh 2003, 1150). David Spener’s (2009) work on *coyotaje* in South Texas emphasizes that having social capital

or ties to people in one's receiving community to help finance the trip is an important asset for migrants in the negotiation process. According to his research, "those who had 'no respondents' in the United States willing to lend them money on concessionary terms would have to rely on loan sharks or the coyotes themselves to lend them travel money on usurious terms, if they were able to make the trip at all" (Spener 2009, 187).

Becoming indebted to a loan shark or coyote could have devastating consequences and result in a situation in which a migrant or their family members become exploited.

Increased coyote fees have changes the method of delivery of payments for smuggling services. In the past, prior to increased border security measure, "coyotes would typically collect fees from migrants prior to crossing" (Kimball, Acosta, and Dames 2007, 103-104). Today that is no longer the case. One MMFRP found that, "coyotes usually collect the bulk of their payment away from the border area, once the migrant has safely reached his or her final destination (Kimball, Acosta, and Dames 2007, 103-104), while Gathmann (2008) notes that "migrants typically pay half the price up front and the rest upon safe arrival" (1930). The latter arrangement was typical among MBCS respondents and their coyotes in the present study—half would be collected in a drop house in Tucson or Phoenix, and the other half would be paid upon arrival to one's destination. Seldom do coyotes collect the entire fee upfront anymore, as "traveling with large amounts of cash with which to pay a coyote made migrants vulnerable to robbery, so payment in full at the destination helps protect them from attack or extortion. The COD payment arrangements also encourage coyotes to transport their clients safely, so

they will receive full payment” (Spener 2005, 62 as cited by Kimball, Acosta, and Dames 2007, 104).

Data and Methods

The present study examines variation on smuggling fees paid to coyotes using survey data from the first wave of the *Migrant Border Crossing Study (MBCS)* (N = 415). The MBCS is a quantitative survey created with the aim of generating a new data source on migrants’ recent unauthorized crossing attempts through southern Arizona. The MBCS was also created to help overcome some of the limitations of extant data sources on the crossing experiences, notably the MMP and MMFRP. The MMP is limited in that the bulk of the data were collected before increased border security measures in southern Arizona, while the MMFRP can only be used to generalize to the specific sending-communities examined. On the other hand, the MBCS was collected in the current era of increased enforcement efforts in the single most important region for unauthorized migration along the border, and includes respondents from a broad range of communities throughout Mexico.

All surveys were conducted at a migrant shelter in Nogales, Sonora, Mexico between October 2007 and July 2009. In order to be eligible to participate in the study individuals needed to be at least 18 years of age and must have attempted an undocumented crossing along the Arizona-Sonora/Baja California border, been apprehended by any United States authority, and repatriated to Mexico, all within the past six months at the time of the survey. I established these criteria to ensure that

participants could recall the events of their most recent crossing experience in this specific geographic area and to allow for reasonable comparison between cases in an era of heightened border security. Although I limited the sample to people whose last crossing experience was less than six months ago, the overwhelming majority of MBCS respondents had undergone their most recent crossing attempt about a week prior to being surveyed. The methodology used to survey migrants in this study and the generalizability of the MBCS are discussed in extensive detail elsewhere (Martinez et al. n.d.).

Sampling

Interviewers randomly sampled potential participants from five previously defined areas in the shelter such as a hallway while shelter guests returned from eating, around the water cooler and in different sections of the dormitory. People who had been randomly selected were then screened to determine if they were eligible to participate in the survey. In total, researchers screened 688 people, 429 of which were eligible to participate in the study. Among those invited to participate in the study, only 14 refused (96.7% response rate).

Variables Used in the Analysis

Dependent Variable

Amount Pay: The dependent variable utilized in this article is the dollar amount a migrant paid or agreed to pay their coyote once he or she reached their desired destination. I utilized a skewness and kurtosis test for normality in Stata 12 to determine

whether or not the variable was normally distributed. The null hypothesis was that the distribution of coyote fees was normal distributed. The test failed to reject the null hypothesis, suggesting the variable was indeed normally distributed. The normal distribution of coyote fees was corroborated with a visual account provided by a histogram.

Independent Variables

The independent variables used in the analysis were grouped into six different theoretically-relevant or conceptual groupings, 1) demographics, general human capital, and financial capital, 2) migration-specific social capital, 3) migration-specific human capital, 4) the context of the respondent's last crossing attempt, 5) the region of the respondent's desired destination in the United States, and 6) a factor representing a "culture of migration" in a respondent's state and other state level controls.

Demographics, General Human Capital, and Financial Capital

Female: This variable is a dichotomous variable indicating whether the respondent is female or not. Extant studies have found that women tend to rely on others to cross the border more so than men and that the culture of migration in Mexico remains fairly gendered, with families being more worried about their female relatives migrating. Research also suggests that women tend to be more risk averse than men. Assuming that higher coyote fees are associated with less physically risky manners of crossing, I hypothesize women (or their family members), on average, pay higher fees than men.

Age: Each individual's age was recorded as a count variable. Age has been used in the sociological literature as a proxy for greater lived experience and maturity. Prior research finds migrants become more likely to travel with others as they age, which is consistent with the literature noting that people become risk averse as they age. Once again, assuming that higher coyote fees are associated with less physically risky manners of crossing, I hypothesize that migrants will be more likely to pay higher fees as they age.

Years of Education: Migrant's educational attainment was recorded as a count of the number of years of formal education he or she has had. Previous literature notes risk tolerance actually increases with education, something that seems somewhat counterintuitive. However, more educated people may perceive themselves as being better informed of the risks of a particular action, and therefore may feel a lower sense of uncertainty, which may ultimately increase risk tolerance. Thus, I hypothesize that more educated migrants, on average, pay lower fees than less educate migrants.

Married: This variable is a dichotomous variable representing a person's marital status. Respondents who are married were coded as "1," while those who were not married at the time of the survey were coded "0".

Sole provider of household: *Sole provider of household* is a dichotomous variable indicating whether or not a person is the sole economic provider of his or her household. Respondents who were the sole economic providers were coded as "1," while those who had at least one other person contributing economically to the household were coded "0". People who lived alone were coded a "sole provider."

Employed: *Employed* is a variable that controls for whether or not the respondent was employed prior to their most recent crossing attempt. Those who were employed were coded “1,” while those who did not have employment were coded “0.”

Log monthly household income: This variable measures the respondent’s total monthly household income in dollars. A test in Stata 12 determined the variable was skewed right, therefore I calculated the natural log of total monthly household income [$\ln(x_{\text{household_income}})$] as a means of adjusting for skewedness. One would expect that respondents with higher levels of household income would be more likely to use a coyote over other crossing modes simply because they can afford to pay for the services. Yet a previous study examining modes of crossing found no statistically significant relationship between household income and crossing mode (Martinez n.d.). One explanation is that most migrants finance unauthorized crossings through interpersonal loans from family members or friends in the residing in the United States, or agree to make monthly payments to the coyote over the course of the next several years once they arrive to their desired destination. In light of these recent findings, I hypothesize that there is not relationship between monthly household income and fees paid to coyotes.

Migration-Specific Social Capital

Family in Destination: This variable is a proxy for migration-specific social capital and measures the presence of a *strong* familial tie in the respondent’s desired destination. I must note that this variable includes some respondents who also indicated they have at least one friend in their desired destination. However, a review of the literature suggests that familial ties are stronger forms of migration-specific social capital

than ties to friends (Singer and Massey 1998); therefore the tie to a family member is of most interest. Cases with at least one family member in the desired destination were coded “1,” all other cases were coded “0”.

Migration-specific Human Capital

Number of Lifetime Crossings: Numcrosst consists of a count of the number of unauthorized crossing attempts a person has made in his or her lifetime. Previous literature has utilized this measure as a proxy for migration-specific human capital and has found that as people gain first-hand crossing experience they become less likely to cross with others (i.e., with family members/friends or a coyote) relative to alone. However, among those who *do* utilize the services of a coyote, I hypothesize that people with greater migration experience will be more willing to pay higher smuggling fees because they have a better understanding of the risks involved with crossing the border.

Last Crossing Attempt

“Border Business” coyote: A prior study using data from the first wave of the MBCS determined there were subtle yet important differences between the types of coyotes respondents utilized and age, time of the year, and crossing corridors (Martinez n.d). This variable is a dichotomous variable indicating if the respondent used a “border business” coyote during their last crossing, and is used to examine whether or not there are important differences in the fees charged by different between coyote types. Previous

qualitative studies note that “border business” coyotes typically charge more than other coyote types, therefore I expect the same to hold in the present study.

Amount of Time to Cross: This variable represents the number of days a migrant was told he or she would spend crossing the U.S.-Mexico before being picked up and transferred to a drop house in Tucson or Phoenix. I hypothesize higher coyote fees are associated with being told it would take relatively less time to cross.

Payment to Get to Destination: Often migrants will be quoted or charged an initial fee to be taken to a drop house in Tucson or Phoenix, and later an additional fee to be transferred to their desired destination. This variable controls for whether or not the agreed upon fee was to deliver the migrant to his or her desired destination and is intended to control for any variation in fees that may arise from the respondent providing an amount that was only part of the total fee.

Summer Crossing: *Summer* is a dichotomous variable that controls for whether or not the respondent’s most recent border crossing occurred between the months of May and September. Crossing during these months presents the most physical risk for coyotes and their cliental. I hypothesize that coyotes charge higher fees to offset the costs and dangers associated with crossing during summer months.

Group Size: This variable controls for the size of the group the respondent traveled in during their most recent crossing, and consists of a count of the number of people in the group. I hypothesize that traveling with a smaller group is associated with higher coyote fees, as smuggler stand to generate less revenue from crossing fewer people per trip.

Region of Desired Destination in the US

West: This variable is a dichotomous variable representing whether or not the respondent's desired destination is located in the Western United States. Cases with a desired destination in the west were coded "1," while all other cases were coded "0". I utilize the same region definitions as U.S. Census, which groups the following states in the "West" region: Washington, Oregon, California, Nevada, Idaho, Montana, Wyoming, Utah, Arizona, New Mexico, Colorado, Alaska, and Hawaii. With exception of Texas and Chicago, IL, the southern states located in this region (e.g., New Mexico, Arizona, Colorado, and California) undoubtedly have the longest and strongest presence of Mexican-origin people in throughout the United States. In addition, approximately forty-seven percent of people who relied on the services of a coyote in the first wave of the MBCS indicated their desired destination is located in this region—the highest among any region. Therefore the "West" region represents the referent group in the inferential analysis presented in this article.

Northeast: This variable is a dichotomous variable representing whether or not a respondent's desired destination is located in the Northeastern United States. Cases with a desired destination in the northeast were coded "1," all other cases were coded "0". The U.S. Census groups the following states in the "Northeast" region: Pennsylvania, New Jersey, New York, Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire, and Maine. Given the greater distance needed to travel from the Arizona-Sonora border to the Northeastern United States relative to other regions, I hypothesize

that people traveling to the northeast will have been required to pay higher fees when compared to people traveling to the Western United States.

Midwest: The *Midwest* variable denotes whether or not the respondent's desired destination is located in the Midwestern United States. Cases with a desired destination in the Midwest were coded "1," while all other cases were coded "0". According the U.S. Census, the following states are located in the "Midwest" region: North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Indiana, Michigan and Ohio.

South/Mid-Atlantic: This variable represents whether or not the respondent's desired destination is located in the Southern/Mid-Atlantic United States. Cases with a desired destination in the South/Mid-Atlantic were "1," all other cases were coded "0". According the U.S. Census, the following states are located in the "South/Mid-Atlantic" region: Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, Tennessee, Kentucky, West Virginia, Maryland, Delaware, Virginia, North Carolina, South Carolina, Georgia, and Florida. This region also includes the District of Columbia. With the exception of Texas, states in this region have a relatively recent history of Mexican migration. A recent study from the Brookings Institute found that many metro areas in these states are experiencing a rapid, yet recent growth of the foreign-born population. It is likely that migrant social networks in these areas are not yet sufficiently established and extensive to significantly decrease the costs of the migration process. Further, the rapid growth of the foreign-born population suggests a higher economic and social desire to settle in the area relative to the size of the immigrant network, an imbalance that

should theoretically be associated with higher migration cost. Therefore given these factors, as well as the distance from the Arizona-Sonora border, I hypothesize that the fees associated with attempting to reach states in this region will be higher relative to the “West” region.

State-Level Controls

A Culture of Migration: I utilized factor analysis to create a construct representing a “culture of migration” or in each respondent’s state. Four different state level measures load into this factor: the percent of households with at least one member living in the United States during the past five years, the percent of households receiving remittances from the United States, the percent of households with at least one member that engaged in circular migration within the past five years, and the percent of households with at least one member that returned from living in the United States within the past five years. The data for the four variables used to construct the “culture of migration” factor come from estimates calculated by Mexico’s *Consejo Nacional de Población* (CONAPO) and are based on a sample of ten percent of the *XII Censo General de Población y Vivienda 2000*. Higher values on this factor are associated with a more extensive socially embedded culture of migration at the state level.

Marginalization Index: Mexico’s *Consejo Nacional de Población* (CONAPO) estimates *municipio* (county) and state level indices for marginalization every five years to measure varying levels of development within the country. Although I would have ideally included community level measures of marginalization in the inferential analysis, data limitations forced me to rely solely on the state level measures. CONAPO’s

marginalization index, which ranks states from least marginalized to most marginalized, is estimated using a principle components method (Anzaldo and Prado 2005) and summarizes municipal and state levels of schooling, housing conditions, population density, and income characteristics (Anzaldo and Prado 2005; López-Córdova, Tokman, and Verhoogen 2005). Marginalization is a structural factor that can increase a person's social risks and vulnerability (Anzaldo and Prado 2005). Although people may attempt to mediate these risks and vulnerabilities by paying more money to cross the border through official ports of entry hidden in vehicles or using false documents, it is likely that people from extremely marginalized areas of Mexico will not have the economic and social resources to be able to do so. Therefore I hypothesize that higher level of marginalization will be associated with lower coyote fees.

Female Employment Rate: I utilize the female employment rate in each respondent's state as a proxy and control for the loosening of traditional patriarchal constraints. States with higher levels of females in the formal labor market should have less restrictive gender norms pertaining to working outside of the home and possibly engaging in international migration. Mexican migration to the United States has historically been largely male-dominated; however this is slowly beginning to change. Previous work has noted that more and more women are beginning migrate not only to be reunited with family members, but as economic migrants themselves (Muse-Orlinoff et al., 2009).

Apprehensions: This variable represents the number of monthly Border Patrol apprehensions from a respondent's state in the Tucson Sector that occurred during the

month of the interview. The *apprehensions* variable controls for monthly fluctuations in the unauthorized migration flows from each Mexican state. Although not an exact measure of true unauthorized migration patterns, previous research has demonstrated that apprehensions are highly positively correlated with the true unauthorized flow ($r = 0.90$) and that changes in apprehensions can be used to track changes in migration patterns (Espenshade 1995b).

Handling Missing Data

I attempt to overcome the methodological challenge of missing data by using multiple imputation (MI) to deal with missing observations, a technique that has gained popularity in recent years (Rubin 1987; Schafer 1997; Stata 2009). MI retains important information that would otherwise be lost in inferential analyses if listwise deletion were used. Although listwise deletion is the conventional technique utilized by most social scientists to handle missing data, it can result in selection bias as well as loss of statistical power (Graham, Olchowski, and Gilreath 2007). Listwise deletion also requires that the missing data be missing completely at random (MCAR), whereas MI requires that the observations only be missing at random (MAR) (Allison 2002), thus MI makes less restrictive assumptions about the structure of missing data. Following the recommendation of Graham, Olchowski, and Gilreath (2007), I conducted twenty imputations ($m = 20$) using the multiple imputation by chained equations (MICE) method (Royston, 2004; 2009; van Buuren, Boshuizen, and Knook 1999). Each imputation substituted cases with missing information with unbiased plausible values using their

predictive distributions in a separate dataset. I then estimated variable means and conducted the inferential analysis on each of the imputed datasets and combined the results using “Rubin’s Rules” to yield coefficient estimates and standard errors (Rubin 1987 as cited by Graham, Olchowski, and Gilreath 2007).

Following the recommendations of von Hippel (2009), I conducted natural log transformation on the household income variable prior to the multiple imputations, or what the author calls the “transform-then-impute method.” This approach yields less biased estimates. In addition, I utilized a strategy the von Hippel (2007) calls “multiple imputation, then deletion (MID)” to handle cases where there were missing values for the dependent variable (von Hippel 2009, 2). In others words, I included cases with missing values on the dependent variable in the estimation of the imputation, but then omitted cases when conducting the inferential analysis. Utilizing this strategy protects estimates from problematic imputations “when there is something wrong with the imputed Y values” (von Hippel 2007). Furthermore, “when the imputed Y values are acceptable, MID usually offers somewhat more efficient estimates than an ordinary MI strategy” (von Hippel 2007).

Results

Descriptive Statistics

Table 1 provides the descriptive statistics for the fee migrants agreed to pay coyotes and the independent variables and controls used to explicate the variation in these fees. Means and standard errors are reported for the multiply imputed data. Independent

variables and controls are categorized according to the theoretically-relevant conceptual groupings described in the *Variables Used in the Analysis* section.

As noted in Table 1, the mean fee people agreed to pay their smugglers was \$1,645, or approximately four times respondents' average monthly household income. In terms of a demographic profile, the typical respondent was a male, near the age of 33, with seven years of formal education, and a monthly household income of \$432. In a similar vein, 38% were married and 37% were the sole economic providers for their households, although these two variables are not highly correlated ($r = 0.08$ in the non-weighted, non-imputed analysis sample). The majority of respondents (69%) were employed prior to their most recent crossing attempted. In terms of migration-specific social and human capital, 60% of respondent stated they had at least one family member in their desired destination and 3.9 mean lifetime unauthorized crossings including the most recent attempt.

When it comes to their most recent crossing attempt, roughly 62% of the analysis sample utilized a "border business" coyote, and 43% crossed the border during a summer month. The mean amount of time respondents were told they would spend crossing the desert was about 1.5 days, and the average group size was about 15 people, not including the respondent. The most prevalent region of desired destination in the United States was the West (47%), followed by the South/Mid-Atlantic (32%), and the Northeast (12%). Only 9% of respondents in the analysis sample indicated they were trying to research a destination in the Midwest.

Ordinary Least Squares Regression and Results

I use Ordinary Least-Squares (OLS) regression to examine the statistical relationship between demographic characteristics and different levels of various types of capital (independent variables) and the dollar amount pay coyotes or guides to facilitate a crossing attempt (dependent variable) (Allison 1999). As noted, the OLS analysis is limited to only those migrants who reported paying or agreeing to pay a coyote to facilitate their crossing and cases where the dependent variable did not have a missing value.

Table 2 illustrates the results for the OLS regression results for coyote fees and the explanatory variables included in the analysis, including regression coefficients, standard errors (reported in parenthesis), and significance levels. The adjusted R-squared reported in the table was calculated by averaging the adjusted R-squared values for each of the twenty imputations estimated. Model VI in table 2 represents the final “full” OLS model utilized to estimate coyote fees, whereas Models I – V depict how I sequentially arrived at final model, starting with the least proximate variables pertaining to the most recent crossing (State Level Controls) and concluding with the most proximate (Region of Desired Destination in the US) . This approach allowed me to examine how the inclusion of each additional set of variables mediated the effects of previous conceptual grouping on coyote fees. As noted by the adjusted R-squared, Models I – IV explain very little, if any, variation in coyote fees. However, once the variables pertaining the Last Crossing Attempt (i.e., “border business” coyote, amount of time told to cross, payment to get to destination, summer crossing, and group size) are added to the model, the

adjusted R-square increases from 0.029 to 0.088 in Model V, meaning that variables and controls included in the final model explain nearly 9% of the variation in coyote fees.

Similarly, when the Region of Desired Destination variables are included the degree of variation in coyote fees explained by the model increased from 8.8% to 16.7%.

Ultimately, the conceptual groupings that are most proximate to the last crossing better explain variation in coyote fees than do state level controls, including a proxy for migration-specific cultural capital, demographics, general human capital, financial capital, and migration-specific social and human capital.

Demographics, General Human Capital, and Financial Capital

Although the variables pertaining to the most recent crossing attempt and region of desired U.S. destination explain more variation in fee than other factors, each theoretically-relevant grouping of concepts has at least one variable that is statistically significantly associated with coyote fees, with the exception of the measure of migration-specific social capital (i.e., having a family member in one's desire destination). In the final model (Model VI), greater levels of formal education, being married, being the sole economic provider for a household, and higher household income are all associated with higher coyote fees. For example, each additional year of education increases coyote fees by about \$32, while married people and sole providers, on average, agree to pay \$185 and \$264 more, respectively, than non-married people and those who have others contributing economically in their household. I also tested to see if there was an interaction effect

between being married and being the sole economic provider of a household, however, the interaction term was not statistically significant.

Higher household income is also associated with higher coyote fees. According to Model VI, we would expect a 10% increase household income to be associated with a \$19 increase in coyote fees [$0.10 \times (189.33)$]. Interestingly, being employed before one's most recent crossing is actually negatively associated with coyote fees. When controlling for all other covariates, people who were employed before the last crossing paid \$212 *less* than people that were not employed. The following vignette helps contextualize and humanize some of these findings³.

Jesús is a 50 year-old male originally from Matamoros, Tamaulipas, with eleven years of formal education. He had been living in Washington for the past 17 years where he worked in an apple orchard. Compared to how things were years ago when he first left Mexico, he and his wife were doing alright financially, taking in around \$2,400 a month.

Despite having settled permanently in the United States, Jesús is a seasoned migrant with nine lifetime border crossing attempts and just as many apprehensions by U.S. authorities. Jesús was apprehended and repatriated to Mexico two months, and was now trying to get back home to his wife, kids, and grandkids in Washington.

Through a friend, Jesús met a coyote in Mexicali, Baja California, who agreed to guide him across the border through the irrigation ditches and canals near Yuma, Arizona, for \$2,400. The price was relatively more expensive compared to the \$1,500 people were paying to cross for two or three days near Sasabe, Sonoyta, or Agua Prieta, Sonora, but the entire trip was guaranteed to take less than a day which was appealing to Jesús—especially considering the heat this time of year. The journey would be less physically demanding, but the risk of being detected by U.S. authorities much higher. Despite being apprehended and laterally repatriated to Nogales, Sonora, he is certain he will cross again, it may be next week, or the

³ All vignettes were constructed using data collected from closed-ended and open-ended responses in the survey, as well as researcher field notes. Direct quotes from the respondents are noted when applicable. All names used are pseudonyms.

week after, but he will make it back to Washington to be with his family. [Case ID: 61320081128]

In this particular case, Jesús agreed to pay his coyote \$2,400, which is about \$750 more than the mean among MBCS respondents. Jesús is married, more experienced, better educated, and better-off than the average respondent—all of which are associated with higher crossing fees. Jesús also crossed during a particularly hot time of the year—June, a factor that will be discussed in more detail below. Although Jesús is older than the average respondent, age does not seem to be a factor driving higher coyote fees among MBCS respondents. This finding contradicts my original hypothesis, which is something I discuss in more detail below.

The extant migration literature has noted to that gender and age are both important factors in the social process of unauthorized migration. Donato, Wagner, and Patterson (2008) found women who crossed after the implementation of the Immigration Reform and Control Act were more likely to do so with a coyote relative to traveling alone compared to men. This same study also found important differences between age cohorts and mode of crossing (Donato, Wagner, and Patterson 2008), with younger people under 25 being more likely to travel alone than those in other age groups. This is consistent with Singer and Massey (1998) who found younger migrants are most likely to cross alone. A more recent study which differentiated between coyote types found that women are more likely to travel with both “interior” and “border business” coyotes relative to crossing with family/friends than men, although there were no gender differences between specific coyote types (Martinez n.d.).

Despite the important differences relating to age and gender highlighted in previous studies, as well as the general consensus on that older people and women tend to be risk averse, the present study found no statistically significant relationship between age, gender, and fees paid to coyotes. These non-significant findings for gender and age are consistent in all versions of the full and reduced models (Models II – VI), meaning that these characteristics are not necessarily working through other variables that were incrementally added to the model. I also tested for non-linear relationships between age and fees to examine whether *younger* and *older* migrants pay higher fees, however, none of the interaction terms were statistically significantly associated with coyote fees. This may be a consequence of the age variable being truncated at eighteen years of age. These results contradict my previously stated hypothesis that women and older migrants, on average, pay higher fees than men and younger migrants—a hypothesis I formulated under the assumption that higher coyote fees are associated with safer crossings and that older people and women tend to be more risk averse than younger people and men.

Migration-Specific Social Capital

Immigration scholars have long emphasized the importance of social capital or the “migrant network” in migration process (Massey et al 1987; Massey et al 1993; Espinosa and Massey 1997; Singer and Massey 1998; Donato, Wagner, and Patterson 2008). Social capital (i.e., ties to relatives in the U.S.) has been shown to help people cross the border, find housing and employment, and secure higher wages in receiving communities. However, a recent study using MBCS data collected in southern Arizona

that differentiated between coyote types found no connection between higher levels of social capital (i.e., family members or friends in one's desired destination) and mode of crossing (Martinez n.d.). In a similar vein, Model VI suggests that having family members in ones desired destination does not statistically significantly explain variation in coyote fees, which is somewhat counter intuitive because social networks are thought to reduce the costs associated with unauthorized crossing.

There are several possible explanations for this null finding, although here I only focus on a few. First, the unauthorized population in the United States has increased exponentially over the past 15 years as a direct result of increased border enforcement (Massey 2005). Most migrants, even relatively inexperienced migrants, tend to have at least one tie to someone in the U.S. For instance, 90% of respondents in the full, weighted sample of the MBCS indicate they know at least one person in their desired destination. It is possible that social networks of unauthorized migrants have become so extensive and saturated that information flowing across these networks has become redundant. This is something that Massey et al (1993) pointed out long ago in their seminal work on theories of international migration—it is possible for networks to reach a certain point of density that their ability to reduce costs decrease substantially. Essentially, social networks can only help reduce migration costs until they reach a critical point of saturation.

A second possibility is that the ways in which “social capital” and the “migrant network” have been conceptualized in most quantitative migration studies, including the present study, are simply inadequate. Most studies in this tradition have viewed “social

capital” in a positive light, especially in terms of lowering the economic and social costs of migration. However, previous studies have been very critical of this approach and have cautioned scholars to distinguish between the *positive* and *negative* aspects of social capital or the metaphorical migrant network (Portes and Sensenbrenner 1993; Mahler 1995; Hagan 1998; Krissman 2005). Just as the immigrant network can symmetrical and yield benefits, it can also be asymmetrical, exploitative, and result in negative consequences. Just because a person has a social tie to their desired destination does not necessarily mean this connection will result in positive outcomes. It is possible that the way I conceptualized and operationalized the notion of social capital, notably as being unidirectional in a positive sense, is actually confounding the relationship between different types and qualities of social capital and coyote fees. Immigration scholars working within this particular theoretical frame need to arrive at measure of social capital that can account for both the positive and negative aspects of ties to others.

Third, it is likely that the conventional “social capital” approach confounds having “strong ties” in one’s destination with having an “established life” in the United States. I argue that these types of capital are fundamentally distinct from each other. Border enforcement policies have led to the growth of the unauthorized population in the United States, including a sizable “1.5 generation.” The undocumented “1.5 generation” consists of people who were brought to the United States at a young age, but due to heightened security, have not actively engaged in circular migration, but rather have spent their formative years in this country. Member of the 1.5 generation who are deported likely possess “strong ties” to the United States, but this type of social capital

may not be very helpful in the migration process such as securing “quality” and “cost-effective” smuggling services. Immigrations scholars continuing to use the “Massey model” need to theoretically and conceptually explore the notion of having “an established life” life in the United States and differentiate it from other types of capital; doing so will only improve our theoretical understanding of the social process of migration.

Migration-Specific Human Capital

Migration-specific human capital, or first-hand migration experience, has been shown to play an important role in the social process of unauthorized migration—especially in explicating people’s modes of crossing. As people gain more migration experience they tend to rely less on their social networks and instead substitute for their own honed experiences. Studies have found that as the number of migrants’ prior U.S. trips increases the likelihood of traveling alone relative to crossing with a coyote or with family members/friends also increases (Singer and Massey 1998; Donato, Wagner, and Patterson 2008). A different, more recent study using MBCS data found that a higher number of lifetime crossing attempts decrease the odds of traveling with either a “border business” coyote or an “interior” coyote compared to traveling with family members or friends (Martinez n.d). In other words, as people accumulate their own crossing experience they not only tend to rely less on others to cross, but also serve as a form of social capital that new, less experienced migrants can turn to for assistance.

Nevertheless, although greater experience leads to less reliance on others to facilitate a crossing, it also does appear to affect coyote fees among those who use smuggling services to cross the border. For instance, the regression results in Table 2 suggest each additional lifetime crossing attempt increases coyote fees by nearly \$32. This finding contradicts my hypothesis that more experienced migrants would pay lower fees. Since knowledge acquisition has been shown to increase risk tolerance, and migrants with greater experience are more likely to take risks when it comes to crossing modes (i.e., crossing alone versus crossing with others), and I believed that more experienced migrants too would be less willing to pay higher smuggling fees. However, it is likely that among those who do use coyotes, seasoned migrants are more willing to pay higher fees to coyotes with a broader range of smuggling techniques or options if they believe it increases their chance of a successful crossing or minimizes their exposure to various forms of physical risks along the way. The following example helps illustrate the relationship between previous migration experience and coyote fees, although Juan Carlos' experience was far from risk-free:

Juan Carlos, 35, is from the West-Central Mexican state of Jalisco, but has spent the majority of his life in Bakersfield, California, where he was making about \$2,400 a month installing carpet until December of 2008. Although he has spent a considerable amount of time in the United States, he still has strong ties to Jalisco and is a seasoned migrant having crossed back and forth nearly two dozen times.

He most recently attempted to cross through Altar-Sasabe in March of 2009 with a coyote he met at the Nogales, Sonora, bus station. The coyote agreed to take him all the way to Bakersfield for \$3,500. Although the guide told him they would only be required to walk for two days before reaching the *riatero*, he actually spent five days in the desert. Along the way Juan Carlos and the four people he was traveling with were stopped by *bajadores* who stole the \$3,500 his sister had wired him to pay the coyote.

After traveling for days, Juan Carlos began to tire and fall behind. He was soon abandoned by the guide and his traveling companions. Juan Carlos finally made it to a road where he attempted to flag down a Border Patrol agent for help, but the agent refused to stop. He eventually came across a Minute Man near what he thought was Calexico, California. The person zip-tied his hand behind his back and called Border Patrol. When describing the situation he said he felt really bad, “I was so close.” When asked what he thought of the Minute Men he said “they’re a bunch of idiots, they think we’re going to rob them, we don’t want to harm them, I don’t know why they think that...I think what they are doing is wrong, we don’t want to hurt them, I don’t even want to see them... we come here to work.” [ID: 04060910224]

Last Crossing Attempt

Among the four variables pertaining to a migrant’s most recent crossing attempt, two seem to help explicate variation in coyote fees: whether or not the crossing was attempted during a summer month and the size of the group in which a person traveled. Interestingly, there were no significant differences between the fees charged by “border business” and “interior” coyotes. As noted, enforcement efforts have forced various actors (e.g., drug smugglers and coyotes) into the same geographical spaces along the border therefore pushing unauthorized migration in southern Arizona further into the realm of an underground economy. It is likely this process has resulted in a much more regulated or controlled informal market in terms of accessing and traversing crossing corridors along the U.S.-Mexico border; one that is dictated by drug trafficking organizations and corrupt political, military, and law enforcement officials (see Andreas 2001; Campbell 2009; Grillo 2011; Gibler 2011). In other words, there is likely an established market rate and price floor for accessing and traversing coveted areas used to smuggle not only illicit goods, but humans as well—a price floor that likely applies to

everyone regardless of whom one is traveling with, where one is coming from, and previous migration experience. Price floors are typically set *above* market equilibrium which ultimately ensures a surplus or profit for those dominating the market.

Crossing during a summer month and crossing in a larger group both *increase* coyote fees. For instance, people who cross during the summer pay, on average, pay \$235 more in coyote fees when compared to those who cross in non-summer months. The risk of hyperthermia while crossing the border is highest during summer months when temperatures frequently exceed 110 degrees Fahrenheit. Medical investigator records from the Pima County Office of the Medical Examiner on 2,238 migrant deaths in southern Arizona show that 85% of exposure (i.e., hyperthermia) cases were among people whose remains were recovered during summer months. Migrants and coyotes likely both recognize the elevated risk during summer months and therefore agree to significantly higher fees to account for said risk.

In a similar vein, traveling with a larger group is also associated with paying higher coyote fees, although the relationship is only significant at the 0.10 alpha-level. Interestingly, the regression results suggest one could expect about a \$47 increase in coyotes fees per person for each additional ten people in a group. Although one may expect smaller groups to be associated with higher fees, it is possible that traveling in a larger group elevates the risk of being detected by U.S. authorities while crossing, therefore increasing the going rate of smuggling larger groups. Ultimately, the going rate for people traveling in smaller groups may be near the price floor—a rate sufficiently high enough to ensure all parties involved on the supply-side of the operation cover their

costs and yield a profit. However, as the size of a person's group increases so does the risk of apprehension, which ultimately translates into higher fees.

Region of U.S. Destination

As noted, the inclusion of dummy variables controlling for the region of person's desired destination in the U.S. increases the amount of variation in coyote fees explained by the overall model from 8.8% in Model V to 16.7% in Model VI. On average, people who were traveling to the Southern United States or Mid-Atlantic agreed to pay \$226 more than those trying to reach a destination in the western part of the country. Similarly, those whose destination was in the Northeastern United States agreed to pay \$558 more than those traveling to the West. As mentioned, there are two likely explanations for this finding. It is likely that the sheer distance of these areas from the Arizona-Sonora border results in higher transportation costs for smuggling operations, and therefore, higher fees for respondents traveling to these regions. The following vignette details the experience of Manuel who was trying to make the 2,000-mile journey from Nogales, Sonora, to Charlotte, North Carolina.

Manuel, 40, left Guadalajara, Jalisco, about a week before crossing the border. He traveled up with an acquaintance and a coyote he had met through some friends back home. Manuel had previously lived in California for three years where he was waiting tables making about \$2,500 a month, but then had to return to Jalisco. He was now trying to get to Charlotte, North Carolina, where he had spent over 10 years living and working before moving to California. Needless to say he has family and plenty of friends in Charlotte, and was planning on spending two years there before returning home. The coyote agreed to take him all the way to North Carolina for \$2,900.

The three men arrived in Nogales, Sonora, where the coyote took them to the outskirts of town and showed them a section of the border wall. He explained to

them how to scale the fence and drop down to the other side into Arizona, but not before being stopped and robbed of all his money by bajadores.

Manuel scaled the border wall and fell over 15 feet to the other side where he broke his foot when landing. He was left there by his coyote and traveling companion, but managed to get up and was trying to find help when a Mexican-American Border Patrol agent spotted and apprehended him. When asked about how he felt about his interaction with Border Patrol he said, other than being repatriated to Nogales, Sonora, at 2 AM with a broken foot, that it went well, he had received the help he needed. [ID#:]

While Manuel does have strong ties to people in his destination, and seems to have tapped into the “migrant network” in Charlotte, it is also possible that given the relatively recent history of Mexican migration in regions such as the northeast and south/Mid-Atlantic, the social networks are not yet sufficiently developed in these areas to effectively decrease the costs of facilitating the journey compared to other areas of the country with better established transnational migrant networks such as Los Angeles or Chicago.

State Level Controls

The present analysis also includes controls for the state level context, including a factor representing a culture of migration, Marginalization Index, female employment rate, and the number of apprehensions from a person’s home state date during the month of their last crossing. With the exception of the Marginalization Index, none of the state level control variables significantly explained variation in coyote fees at the individual level in the final model. I also tested to determine whether or not a significant amount of variation in coyote fees at the individual level was explained at the state level, however a statistical test determine this was not the case. In other words, there does not appear to be

a multilevel relationship between respondents' state of origin and individual level coyote fees.

Contrary to my original hypothesis, there does appear to be a statistically significant positive relationship between the Marginalization Index and coyote fees. In other words, when controlling for all other factors, people from more marginalized states pay more in fees than those from less marginalized states. States with higher levels of marginalization also tend to be concentrated in the southern part of Mexico, an area that also has a higher prevalence of indigenous communities and a more recent history of migration when compared to other parts of the country. It is likely that coyotes are taking advantage of people they perceive to be from more marginalized areas or from indigenous communities by charging them higher fees.

One of the central aims of this article was to explore the relationship between community level culture of migration and coyote fees, net of individual factors. My central hypothesis was that Mexican states with a more extensive or socially-embedded culture of migration would provide a certain amount of migration-specific cultural capital, so to speak, that people would be able to draw on to facilitate a crossing, and ultimately, pay lower coyote fees all else being equal. Overall, the coefficient for the factor used in the analysis to encompass at state level "culture of migration" is not statistically significant in the final model, however it does begin to approach significance ($p = 0.111$) in the negative directions. In other words, we can be about 89% confident that respondents from states with higher levels of migration-specific cultural capital, on average, pay lower coyote fees than those from state with relatively lower levels of

cultural capital net of all other factors. It is likely that the measure used in this analysis is not sufficiently proximate to the lives of the people surveyed. A better and more precise measure of a “culture of migration” would have been one that examined the community or municipal context. Ultimately, the sociological understanding of unauthorized migration could be advanced substantially by further examining empirically the relationship between a “culture of migration” at the community, extended family level, and individual level migration outcomes.

Conclusion

The present study is one of only two that have examined the connection between individual level factors and smuggling fees (see Parks Lozada, Mendoza, and Garcia Santos 2009), therefore the impact of human capital, risk tolerance/aversion, social capital, and “cultures of migration” on fees have been relatively unexplored and under-theorized in the literature. An underlying assumption driving the analysis in article is that, net of all other factors, higher smuggling fees are associated with a less risky crossing, be it real or a psychological artifact in the minds of migrants.

Overall, I found that higher coyote fees are explained by more formal education, being married, being the sole economic provider for one’s household, and higher levels household income—all which are important measures of general human capital. Higher levels of migration-specific human capital also lead to higher coyote fees, as migrants with more cumulative lifetime crossing experience tend to pay more than less experienced crossers. These findings, for the most part, are consistent with the literature

on human capital and risk tolerance/aversion in the migration process. Contextual factors pertaining to the most recent crossing also affect the price of a coyote. People that reported crossing in larger groups or during the summer also, on average, paid higher fees. Crossing in large groups and during the summer, although for different reasons, present higher levels of risk for smuggling, which the offset by charging higher fees. Large groups increase the risk of being detected by U.S. authorities and, in turn, increase the probability of apprehension, while walking across the border during hot summer months increases the risk of hyperthermia and death for both migrants and the coyotes. However, the single strongest predictor of higher smuggling fees is the region of one's desired destination in the United States. For example, people traveling to the northeastern United States pay nearly \$560 more than those traveling to a destination in the western United States such as Arizona or California.

Coyote fees do not vary by gender, age, or social capital in people's desired destinations. These finding are particularly interesting because they run counter to what one would expect given the extant literature on modes of crossing which finds that the groups that are most "at risk"—younger, female, and less experienced migrants—tend to cross with others rather than alone.

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Figures and Tables

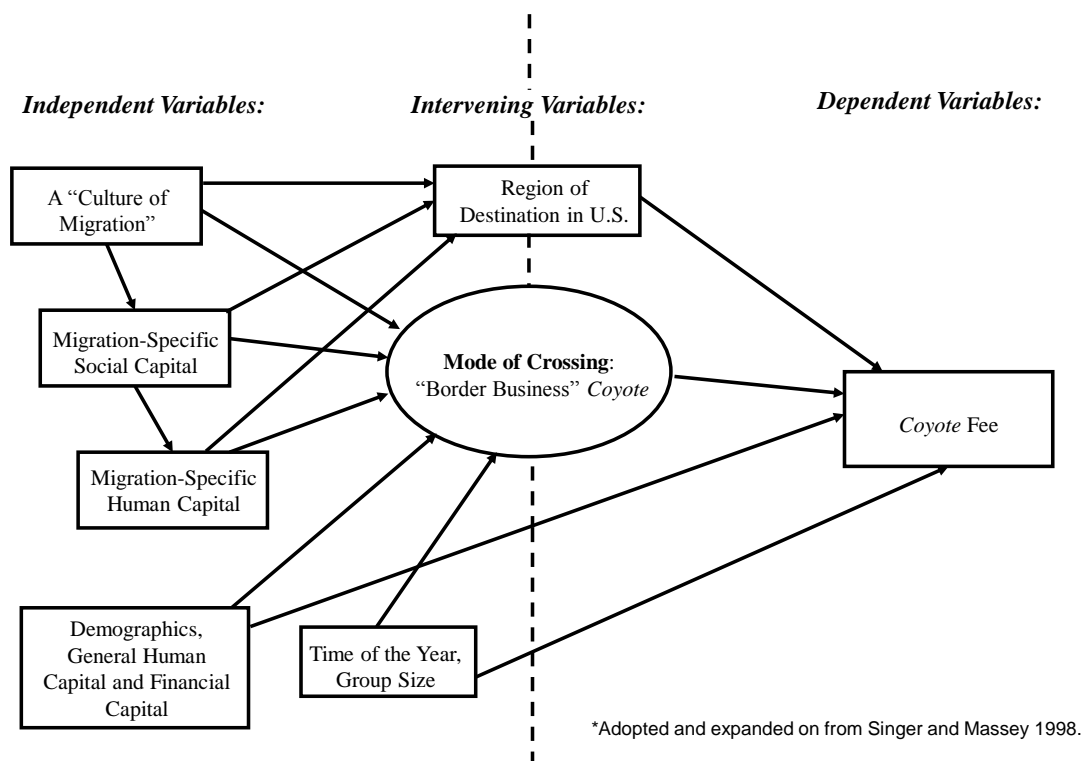
Figure 1. Conceptual Model for *Coyote Fee*

Table 1. Descriptive Statistics for Coyote Fee and Explanatory Variables Used in the Analysis (Multiply Imputed Data)

	Mean (Coef.)	Std. Err.
Dependent Variable		
Amount agreed to pay (in U.S. dollars)	1,645.22	82.440
Demographics, General Human Capital, and Financial Capital		
Female	0.15	0.044
Age	33.20	1.042
Years of education	7.05	0.306
Married	0.38	0.044
Sole provider of household	0.37	0.042
Employed	0.69	0.039
Monthly household income (in log dollars)	6.12	0.124
Migration-Specific Social Capital		
Family in desired destination	0.60	0.043
Migration-Specific Human Capital		
Number of lifetime crossings	3.85	0.261
Last Crossing Attempt		
Used "border business" <i>coyote</i>	0.62	0.043
Amount of time told to cross (in days)	1.50	0.124
Payment to get to destination	0.90	0.029
Summer crossing	0.43	0.046
Group size	15.14	1.025
Region of Desired Destination		
West	0.47	0.046
South/Mid-Atlantic	0.32	0.040
Northeast	0.11	0.026
Midwest	0.10	0.029
State-Level Controls		
A Culture of Migration	-0.04	0.077
Marginalization Index	0.38	0.124
Female employment rate	85.67	0.415
Apprehensions during month of interview	1,349.52	104.180
m = 20		
N = 261		

Table 2. Ordinary Least Squares Regression Results for Coyote Fee (in log dollars) and Explanatory Variables Used in the Analysis (Multiply Imputed Data)

	Model I	Model II	Model III	Model IV	Model V	Model VI
Demographics, General Human Capital, and Financial Capital						
Female		177.50 (201.68)	163.00 (200.66)	219.66 (198.12)	230.03 (193.61)	239.20 (184.64)
Age		6.44 (7.21)	6.57 (7.21)	4.49 (7.12)	3.49 (6.67)	4.62 (6.12)
Years of education		24.49 (16.51)	25.10 (16.43)	27.52† (16.13)	28.31† (15.47)	32.21* (15.08)
Married		123.19 (124.99)	123.86 (125.10)	122.30 (122.65)	199.04† (119.55)	185.38 (107.02)
Sole provider of household		256.76* (116.85)	259.84* (117.28)	235.41* (115.45)	276.63* (113.78)	264.31* (109.04)
Employed		-240.45* (101.08)	-238.55* (102.16)	-198.22* (96.80)	-192.75* (92.37)	-211.96* (90.54)
Monthly household income (in log dollars)		167.22** (58.40)	166.09** (58.73)	148.67** (57.60)	187.66** (58.79)	189.33*** (55.54)
Migration-Specific Social Capital						
Family in desired destination			44.33 (90.37)	46.30 (87.26)	26.98 (85.28)	26.55 (83.66)
Migration-Specific Human Capital						
Number of lifetime crossings				31.04* (14.39)	31.04* (13.37)	31.68* (12.87)
Last Crossing Attempt						
Used "border business" coyote					-72.98 (88.43)	-13.14 (85.76)
Amount of time told to cross (in days)					-22.01 (38.68)	-6.38 (38.41)
Payment to get to destination					301.10 (189.31)	251.26 (189.71)
Summer crossing					253.21* (98.64)	235.45* (96.74)
Group size					4.81† (2.95)	4.68† (2.69)
Region of Desired Destination						
South/Mid-Atlantic						226.33* (90.98)
Northeast						558.31 (141.33)
Midwest						55.47 (162.23)
State-Level Controls						
A Culture of Migration	-45.84 (86.47)	-83.00 (63.80)	-84.00 (64.39)	-99.58 (62.79)	-117.65† (61.82)	-95.93 (59.85)
Marginalization rank	148.64 (107.63)	152.81* (75.04)	155.10* (74.99)	161.19* (73.43)	161.29* (70.05)	134.31* (64.45)
Female employment rate	48.62 (34.91)	35.36 (21.70)	36.37† (22.01)	37.02† (21.57)	36.67† (20.56)	30.17 (19.65)
Apprehension during month of interview	-0.00 (0.09)	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	0.02 (0.05)	0.01 (0.048)
Adjusted R-Squared	0.00	0.029	0.040	0.045	0.088	0.167
m = 20						
N = 261						

APPENDIX C: ENCOUNTERS AND VICTIMIZATION OF UNAUTHORIZED
MIGRANTS BY BAJADORES IN SOUTHERN ARIZONA

Prepared to be submitted to *Social Problems*

Abstract

The present study utilizes survey data (n = 415) collected in the *Migrant Border Crossing Study* (MBCS) from repatriated Mexican migrants to examine the factors that best explain encounters with and victimization by *bajadores* (stick-up crews) while traversing the desert. The risk of encountering and being victimized by *bajadores* is not higher for males, young adults, the less educated, and the more impoverished—findings which directly contradict the victimology literature. Rather, encounters and victimization can best be explained by contextual factors related to the journey such as location of crossing, the number of days spent in the desert, and crossing with a coyote. The last finding presents an interesting paradox: migrants use coyotes to decrease the probability of apprehension and risk of injury, yet traveling with a coyote increases the probability of encountering *bajadores* along the way. The implications of this specific finding are discussed.

Introduction

Research on crime victimization has provided valuable insights into the factors that increase people's likelihood of violent crime victimization. Generally speaking, the same factors that have been shown to be highly correlated with offending rates also help explicate victimization, notably being young, being male, and a member of an underrepresented racial or ethnic group. The U.S.-Mexico border provides an interesting opportunity to examine whether our current understanding of violent victimization also explains unauthorized migrants' encounters and victimization by "*bajadores*" or "rip-off crews" who prey on immigrants, coyotes, and drug smugglers in remote areas near the border. On the one hand, the migration literature has noted that unauthorized migration is a social process full of risk and uncertainty that people attempt to reduce by drawing on network ties and their honed experiences. Similarly, unauthorized migration from Mexico continues to be a gendered process that ultimately influences how people attempt to cross the border without authorization.

The aim of this article is to attempt to bridge the gap between the migration literature and criminological literature on crime victimization to better understand unauthorized migrants' encounters with *bajadores* during their most recent crossing. Drawing on a unique data set of surveys with recently repatriated migrant, this article attempts to address the following questions. 1) What factors, if any, put unauthorized migrants at risk for encountering and being victimized by *bajadores* while attempting a clandestine crossing? 2) Do the same factors that have been shown to increase people's likelihood of violent crime victimization in the victimology literature also explain *bajador*

encounters? Or do other contextual or social ecological factors relating to one's crossing attempt better explain these encounters? Finally, many migrants utilize the services of human smugglers to lower the probability of apprehension and risk of physical injury. Does traveling with a coyote or guide act as mediating factor in reducing the risk of encountering bandits?

Background and Literature Review

Bajadores or Rip-Off Crews

There is no consensus on the origin of the word, but one scholar notes that the term *bajador* likely “comes from ‘*bajar*, the Spanish verb meaning ‘to pull down,’ and refers to the tactic of forcing victims to pull down their pants at knifepoint or gunpoint to keep them prostrate and to facilitate a body-cavity search for valuables” (O’Leary 2009: 32). Encountering *bajadores* or border bandits in remote and dangerous areas along the U.S.-Mexico border is just one of the many consequences of heightened border security. *Bajadores*, also referred to by migrants in Spanish as *delinquentes*, *pandilleros*, *rateros*, or known as “rip-off crews” in English (Gonzales 2003), are groups of people who wander the desert assaulting and robbing migrants, and at times, their smugglers. While there are accounts of *bajadores* targeting migrants on city streets or raiding drop houses in Phoenix and Tucson (see Gonzalez 2003), migrants most often encounter them in the desert areas near the Sonora-Arizona Border.

The academic literature on the origins and activities of *bajadores* along the U.S.-Mexico border is sparse (for an exception see Wolf 1998; O’Leary 2009; Murphy 2009),

and what little scholarly work exists simply provides descriptive accounts of bandit activities. In their literature review on the migration-crime link, Coronado and Orrenius (2007) note that “Smugglers, and bandits posing as smugglers, prey on migrants and on each other, committing violent crimes such as assault, robbery, kidnapping and homicide” (41).

Nevertheless, the majority of the knowledge on bajadores comes from news media quotes of law enforcement officials and accounts of bandits robbing, assaulting, kidnapping, and even killing migrants near the border (for instance see Gonzales 2003; Campos Rubio 2009; Steller 2010; McCombs 2010; Chiquete 2011; 2012a; 2012b). However, migrants are not necessarily passive actors in these encounters. One account describes a group of migrants retaliating, attacking, and killing a border bandit in the desert (Steller 2010).

Some sources describe bajadores as being hired by drug trafficking organization to guard smuggling routes (U.S. Department of Justice 2007), while others describe them robbing drug mules, coyotes, and migrants in the desert (McCombs 2010). Yet others provide detailed accounts of a drug trafficking organization assassinating and dumping the bodies of suspected bajadores in a desert area outside of Nogales, Sonora, on multiple occasions with *narcomensajes*, (narco-messages) left on the remains reading: “*por andar de bajadores*—for going around like bajadores” (Campos Rubio 2009a; 2009b). Exactly for whom bajadores work is far from clear. At best, “bajadores” is a catch-all term used to describe autonomous or independent opportunistic criminals operating in northern Sonora and southern Arizona to rob migrants, coyotes, and drug smugglers of money and

contraband—including even unauthorized migrants themselves. There exist confirmed reports of bajadores kidnaping and killing migrants (Gonzalez 2003), and there exists at least one account of a U.S. Border Patrol agent being killed by a border bandit (Steller 2012).

The aim of this study is to explain variation in migrant victimization by bajadores or “stick-up” crews, and while examining bajadores themselves is not the central focus of this article, doing so is necessary to illuminate how these groups have emerged as one of many consequences of pervasive structural inequality throughout the United States. Stick-up crews are not unique to the U.S.-Mexico border. In fact, modern bajadores can likely trace their origins to the stick-up crews operating in informal economies in large metropolitan areas throughout the country. Interviews by journalists of U.S. authorities note that most bajadores operating in southern Arizona “are often independent criminals based in Tucson or Phoenix who were on the fringe of drug trafficking and who have banded together” (McCombs 2010).

In the city-center, stick-up crews are known to prey on people engaged in the local informal economy, notably the drug market (Anderson 1999; Anderson 2012). Stick-up crews tend to be clustered in neighborhoods characterized by high levels of concentrated disadvantage, including high rates of poverty, unemployment, population turnover, single-parent households, and limited opportunities in the formal economy. Although limited opportunities and the need for “fast cash” are important factors motivating stick up crews, prior studies have noted that members of these crews tend to be deeply immersed in “street culture” (Jacobs and Wright 1999; Anderson 2012).

“Street culture” can be “traced to the profound sense of alienation from mainstream society and its institutions” felt by many inner-city communities of color (Anderson 1994, 82). Further, “street culture” and the norms of conduct regulating interpersonal behavior in marginalized city-centers, or the “code of the street” are a “cultural adaptation” to structural inequality, individual racism, and “a profound lack of faith in the police and judicial system,” (Anderson 1994, 82).

“Street culture” and the emergence of informal economies in the city-center are a direct result of structural transformations—namely suburbanization, technological changes, deindustrialization—that led to the social and spatial isolation of communities of color in the United States (Wilson 1987; 1996; Massey and Denton 1993; Anderson 1994; 2012; Kubrin and Weitzer 2003). In the case of the urban underclass, residential and social isolation, concentrated disadvantage, lower levels of collective efficacy and social control, the emergence of “street culture”—all stemming from structural transformations—as well as an ineffective or apathetic law enforcement presence have all contributed to the emergence and perpetuation of “stick-up crews” operating in the informal economy.

Spatial isolation and ineffective forms of formal control (i.e., the absence of U.S. authorities) which have allowed stick-up crews to thrive in city-centers also explicate how and why bajadores operate in the U.S.-Mexico border context. Border enforcement efforts have pushed unauthorized migration flows away from traditional urban crossing points into more remote areas, as migrants and their guides attempt to avoid detection by U.S. authorities. While crossing through a remote area of the border region increases the

likelihood of a successful crossing, it also provides an opportunity for bajadores to victimize migrants. Just as stick up crews benefit from the relative social and spatial isolation of city-centers, bajadores too utilize the spatial isolation of smuggling routes to their advantage to victimize migrants.

If anything, the increased victimization of migrants by bajadores, and the way in which they have become commodified within smuggling operations over the past few decades, illustrates how a social process such as unauthorized migration—which was once largely an informal process that took place between kinship, friendship, and community networks—has been pushed further into an informal and underground economy as a direct result of border enforcement efforts. This appears to be substantiated by the literature. In his literature review on unauthorized migration and crime, Rico (2003) notes “although smugglers were traditionally more like guides than seasoned criminals, evidence suggests that as border enforcement and penalties on smuggling have risen, and the drug trade has expanded, the nature of smuggling has become more violent (Rico 2003, as quoted by Coronado and Orrenius 2007: 44).

Bajadores have also indirectly benefitted from the public discourse surrounding unauthorized migration—notably the construction of migrants as the “other.” The notion that unauthorized migrants are violating immigration law breeds apathy toward the injustices and human rights violations migrants experience during crossing attempts. In a sense, it becomes a case of blaming the victim. Having made the decision to migrate without authorization—regardless of the structural “push” and “pull” factors driving international migration flows—makes migrants culpable for their own experiences.

Every year hundreds of migrants lose their lives trying to cross the U.S.-Mexico border, and thousands more experience abandonment, injury, abuse, and victimization by bajadores. Nevertheless, migrants are blamed for these negative experiences. It is not until a U.S. official is assaulted or killed that notice is given to the issue of border bandits⁴.

The possibility of encountering bajadores during the journey has become a serious concern for unauthorized migrants. However, only a handful of studies have specifically asked migrants about their worries about or encounters with bajadores. In one study, when asked about sources of concern when crossing the border, migrants mentioned “bajadores” as a main concern behind only the “desert” and “Border Patrol,” but ahead of the “fences, national guard, minute men and Mexican police,” with no significant difference between men and women on this particular question (Parks, Lozada, Mendoza, and Garcia Santos 2009: 47). A different study found that “twenty-two migrants out of 201 undocumented respondents reported being assaulted or robbed while crossing” (Kimball, Acosta, and Dames 2007: 104). Realizing that encountering and being robbed

⁴ Bajadores have operated along the U.S.-Mexico border for decades. In a 1988 case study on unauthorized migration and crime in San Diego County, Daniel Wolf categorized “aliens” “into one of four group: migrant workers, coyotes, ‘rob and return’ criminals and border bandits” (Coronad and Orrenius 2007, 42). However, increasing attention has been paid to the issue of bajadores resulting from the high-profile 2010 murder of Border Patrol agent Brian Terry by a confirmed border bandit (Steller 2012). Violent crime in remote areas along the border has also gained attention stemming from a heightened concern over a “spillover effect” of drug cartel violence from Mexico into the United States. Two cases in particular have been highlighted: the 2010 murder of David Hartley killed by members of the Zetas cartel while jet skiing on Falcon Lake on the Texas-Tamaulipas border, as well as the murder of rancher Robert Krentz in Cochise County Arizona in 2010, although these cases appear to be isolated incidents rather than indicative of security analyst Sylvia Longmire’s sensationalistic account depicted in *Cartel: The Coming Invasion of Mexico’s Drug War*.

by bajadores while crossing is a real possibility, some migrants attempt to take precautions hiding money in the lining of their clothes or backpacks (Kimball, Acosta, and Dames 2007).

The Social Process of Unauthorized Migration

Although expensive, most migrants today hire a coyote to guide them across the border as a means of reducing the probability of apprehension or the risk of injury during the journey (Donato and Patterson 2004; Fuentes, L'Esperance, Perez, and White 2007; Kimball, Acosta, and Dames 2007; Donato, Wagner, and Patterson 2008; Hagan 2008; Parks, Mendoza, and Garcia Santos; Spener 2009; Hicken, Cohen, and Narvaez 2010). Further, people's modes of crossing appear to vary significantly by gender, age, previous migration experience, and one's degree of access to migrant social networks. People who are, or at least are perceived to be, at higher risk for exploitation or injury during the journey—notably women, and older or less experienced migrants—tend to cross with coyotes or with family members/friends rather than alone. The decision to utilize the services of a coyote is undoubtedly influenced by cultural norms and expectations. However, the literature on risk tolerance/aversion also offers possible insight into how the decision regarding modes of crossing is made. The consensus in the literature appears to be that women and older individuals tend to be more risk averse, while those with higher levels of formal education are more risk tolerant (Williams and Baláž 2011).

It is widely accepted that traveling with a coyote is perceived as one way for migrants to decrease the risk of apprehension and injury. Nevertheless, there appears to

be a paradox in the literature. Hagan (2008) notes that “traveling under the guidance of a coyote can be a risky venture; indeed, except for traveling alone, no other arrangement...presents as many different types of problems for the transit migrants” (77). Hagan finds that the “the relationship between using a coyote and experiencing danger is inherently difficult to disentangle” (2008:77) but likely lies in being able to distinguish “good” coyotes from “bad” coyotes. There are many ways to go about this, for instance, relying on a family member’s or friends referral, or utilizing a coyote from one’s hometown where community bonds may act as a form of social control regulating a coyote’s behavior. Nevertheless, Hagan’s research finds that “traveling with a coyote, regardless of whether family members or friends are also companions, appears to protect from social dangers (such as official detection and border bandits)” (77).

Whether or not the effectiveness of using a coyote is real or a psychological artifact, relying on the services of a smuggling network is one way migrants and their families attempt to mitigate the risks of apprehension, death, and other dangers while crossing the border. Therefore, it seems logical that people who travel with coyotes, especially “interior coyotes” (Lopes Castro 1998), may have a lower risk of encountering and being victimized by bajadores during the journey. Therefore, considering the previously mentioned factors, I hypothesize the following:

H1: Traveling with a coyote reduces the risk of encountering and being victimized by bandits.

Numerous previous studies have noted that unauthorized migration is a social process (Massey et al 1987; Massey and Espana 1987; Espinosa and Massey 1997; Singer and Massey 1998; Donato, Wagner, and Patterson 2008). Inexperienced migrants

tend to draw on important network ties to facilitate an unauthorized crossing. However, as people gain their own first-hand migration experience, they substitute their own knowledge for social ties. In a similar vein, community level cultures and histories of migration vary throughout Mexico. Ultimately, higher levels of individual and community-level migration experience may provide important knowledge about the crossing experience that may serve as protective factors against encounters and victimization by bajadores. Given these considerations, I hypothesize the following:

H2: Migrants with more lifetime migration experience are less likely to encounter and be victimized by bandits.

H3: Migrants with more extensive ties to the United States or from states with a socially-embedded culture of migration are less likely to encounter and be victimized by bandits.

Victimology

Victimology, or the study of crime victims, can offer considerable insight into who, among migrants, may be more likely to encounter and be victimized by bandits. At first glance, unauthorized Mexican migrants may appear to be a relatively homogenous group, especially when compared to the general U.S. population; however there is considerable variation at the regional and individual level among Mexican migrants. At the regional level, migrants come from areas with distinct regional cultures, and different levels of marginalization and histories of migration. At the individual level, unauthorized border crossers range from the very young to those approaching their mid-to-late sixties, and from those living in abject poverty to those living comfortable lifestyles in Mexico. Mexican migrants may speak languages other than Spanish, and range from the college

educated to the illiterate. As noted, men, younger people, and those with more education are most likely to be risk takers within the general public (Williams and Baláž 2011). Although risk-taking and being “at-risk” are not synonymous, these two factors are certainly related, especially when it comes to demographic characteristics such as age and biological sex or gender. Engaging in risky behavior may place people in situations or circumstances that increase their risk of victimization.

Gender

According to the 2010 National Crime Victimization Survey (NCVS), “for the first time since the NCVS began reporting on differences in victimizations by sex, males (15.7 per 1,000 males age 12 or older) and females (14.2 per 1,000) had similar rates of violent victimization. This indicates a continuing convergence of male and female victimization” (Truman 2010:11). Yet there remain important gender differences by specific types of violent crime. Males were more likely to be victims of robbery and aggravated assault, while female were more likely to have experienced rape/sexual assault, but “differences between male and female rates of simple assault were not statistically significant” (Truman 2010:11).

The NCVS is limited in that it does not provide information on homicide rates; however these data are available through the Federal Bureau of Investigation’s (FBI) Uniform Crime Reports (UCR). According to a report by the U.S. Department of Justice, men are more than three times as likely to be victims of homicide when compared to women (2005). In 2005 the U.S. national homicide rate for men was 9.0 per 100,000

residents, compared with only 2.3 per 100,000 residents for women (U.S. Department of Justice 2005). These gender differences also appear to be consistent in Mexico. In 2008 the national homicide rate for Mexican men was 16.2 per 100,000 residents; however it was only 4.8 per 100,000 residents for women (*Instituto Nacional de Estadística, Geografía e Informática* 2010).

One explanation offered by criminologists for these differences is that males are much more likely than females to be involved in illicit activities and engage in risk-taking behaviors (Hagan, Simpson, and Gillis 1988; Keane Gillis, and Hagan 1989). In turn, these differences in risk tolerance/aversion between males and females likely stem from socialization into opposing gender roles or “scripts” (Bem 1993), which teach boys to be more physically aggressive (Giever 1995), and girls to exhibit more self-control (Gibbs, Giever, and Martin 1998; Burton, Cullen, Evans, Alarid, and Dunaway 1998). However, in the context of migration there may be important differences in men and women’s exposure to physical risk or risky situations during unauthorized crossings, as women may be more vulnerable than men, especially if they are traveling alone, with children, or together in a small group. This is important considering as research finds women are more likely to be victims of sexual assault, and there have been various reports and media accounts of women being sexually assaulted or raped by bajadores while crossing the border.

Racial or Ethnic Background

According to the 2010 NCVS, African Americans were more likely than Non-Hispanic Whites and Hispanics to be victims of overall violent crime, robbery, and aggravated assault (Truman 2010: 11). Hispanics were more likely to be victims of overall violent crime, robbery, and aggravated assault than Whites (Truman 2010: 11). American Indians/Alaska Natives, however, had the highest rates of overall violent crime victimization of any ethnic or racial group. Among American Indians/Alaska Native, 42.2 per 1,000 reported violent crime victimization, which was over twice the rate for African Americans (Truman 2010).

Racial/ethnic differences in victimization also hold for homicide. One limitation of the FBI's UCR is that it does not disaggregate race and ethnicity data to allow for reasonable comparisons between Hispanics, African Americans, and non-Hispanic Whites. That is, data are only available by "White, Black, Other Race, and Unknown Race" (U.S. Department of Justice 2010). Nevertheless, African Americans appear to be overrepresented among victims of homicide when compared to Non-Hispanic Whites. In 2010 African Americans made up around half of all homicide victims, while only accounting for 13.6% of the U.S. population (U.S. Department of Justice 2010; Rastogi, Johnson, Hoeffel, and Drewery, Jr. 2011).

Homicide rates in Mexico also seem to vary by race/ethnicity, however, in much different way than in the United States. In the United States, racial or ethnic minorities are a highest risk for violent victimization, especially Native Americans. However, this does not appear to be the case among the indigenous people of Mexico. For instance, one

study found that living in an indigenous community in Mexico actually serves as a protective factor against homicide victimization (Torres, Ramirez, Zurita, Hernandez, Lozano, and Franco n.d.).

Age

One of the most consistent findings in the criminology literature is that people become less likely to engage in crime and be victims of crime as they age (Moffitt 1994; Farrington 2003; Sampson and Laub 2005). This finding is consistent across national boundaries, cuts through cultures the world over, and holds over time. According to the 2010 NCVS, “generally, persons ages 25 or older had lower violent victimization rates than younger persons. Persons ages 18 to 20 had higher robbery rates (5.9 per 1,000) than persons ages 12 to 14 (0.7 per 1,000) and ages 25 or older (from 2.5 to 0.6 per 1,000), and slightly higher rates than persons ages 15 to 17 (2.7 per 1,000)” (Truman 2010: 11). These statistics are in part explained by the fact that younger people are more likely to be risk-takers and sensation seekers; however, risky behavior decreases as people age. Some researchers cite changes in biochemical factors, such as decreases in testosterone levels, as a possible explanation, while others note increased social responsibilities, important “turning points” in people’s lives, or a decreased need for the approval of peers (Farrington 2003; Sampson and Laub 2005). Given a review of the victimology literature on demographic characteristic, I hypothesize the following:

H4: Males are more likely than females to encounter and be victimized by bajadores.

H5: People between the ages of 18 and 25 are more likely to encounter and be victimized by bajadores.

Overall, according to NCVS and UCR data, men, younger people, and racial/ethnic minorities are at increased risk for various types of violent crime victimization. Interestingly, the same factors that explain differential offending rates also explicate victimization rates, with violent offenders being twice as likely as nonviolent offenders to be violently victimized (Shaffer and Ruback 2002). Shaffer and Ruback (2002) also note that previous victimization was a strong predictor of future violent offending second only to previous offending. These findings can obviously be attributed to the notion that perpetrators and victims of crimes experience similar levels of structural inequity, occupy the same social ecological spaces, and may be immersed in a similar subculture of violence, and therefore possess similar risk factors (Shaffer and Ruback 2002). So, to what extent do these findings among the U.S. population apply to migrants in transit? That is do individual level factors really help explicate bandit encounters and victimization, or are other contextual or social ecological factors more important?

Contextual Factors

Cohen and Folsen's (1979) Routine Activities Theory (RAT) holds that crime can best be explained by the convergence of three important factors: 1) a motivated offender, 2) a suitable target and 3) the lack of a capable guardian. A crime is likely to not occur if any one of these factors is absent. According to this perspective, the *opportunity* to commit crime is just as important as the motives of perpetrators. Considering the basic

tenants of RAT, migrants may be at highest risk for encountering and being victimized by bajadores when bajadores themselves can be more certain they will come across a group of migrants—especially in remote areas where there is an absence of formal controls.

According to the U.S. Border Patrol, nearly one-third of annual apprehensions have historically taken place during the months of March and April of each year, as this is the time of the year that many migrants attempt to return north after holiday festivities in their hometowns in Mexico. The sheer volume of migrants crossing on a daily basis during these months is likely higher than any other time of the year. With more migrants crossing during these months there is undoubtedly an increase in the number of “suitable targets,” for “motivated offenders” (i.e., bajadores) to prey upon and therefore, an increased opportunity for violent crime. The same logic could be applied to the size of a group in which one travels. Although somewhat more risky, bajadores likely see large groups of migrants as an opportunity for a larger payoff. Finally, previous research has noted that increased border enforcement efforts have rerouted unauthorized migration flows into remote areas as coyotes and migrants attempt to avoid detection, ultimately contributing to an “absence of capable guardians” that would deter violent crime against migrants.

It is likely that encounters with bajadores are most likely to occur when traveling in larger groups, during peak migration season, or in areas that are relatively remote, yet close enough to basic infrastructure such as roads and small towns that bajadores can use to their advantage. For instance, some media accounts detail bajadores relying on various canyon systems just west of Interstate 19 between Nogales, AZ, and Rio Rico, AZ, to

hide out and prey upon migrants (Banks 2010). These areas are heavily traversed by unauthorized migrants and their smugglers, provide notable cover for bajadores, and are difficult to access for U.S. authorities. Considering these factors, I hypothesize the following:

H6: Migrants who cross in March/April, in larger groups, and near Nogales, Arizona, are more likely to encounter bajadores.

After a review of the literature on the social process of Mexican migration and victimology literature, I created a conceptual model to better illustrate how encounters with and victimization by bajadores can be understood. I anticipate that a person's mode of crossing, their crossing corridor, and the size of the group they travel with will each be important mediating factors in explaining variation in odds of encountering and being victimized by bandits. Human capital, social capital, and a "culture of migration" will all indirectly affect bandit encounters through mode of crossing, while demographic factors, crossing corridor, and group size will each impact bandit encounters directly and indirectly via mode of crossing. Crossing corridor and group size will also affect one another. The figure does not represent a path or factor analysis, but rather is a visual depiction of how I perceive encounters with bajadores to be shaped.

Data and Methods

This study examines migrants' modes of crossing using survey data from the first wave of the *Migrant Border Crossing Study (MBCS)* (N = 415). The MBCS is a quantitative survey created with the aim of gaining a better understanding of the sociological mechanisms and circumstances contributing to migrants' most recent

undocumented crossing experiences through southern Arizona. All surveys were conducted at a migrant shelter in Nogales, Sonora, Mexico between October 2007 and July 2009. In order to be eligible to participate in the study individuals needed to be at least 18 years of age or older and must have attempted an undocumented crossing along the Arizona-Sonora/Baja California border, been apprehended by any United States authority, and repatriated to Mexico, all within the past six months at the time of the survey. We established these criteria to ensure that participants could recall the events of their most recent crossing experience in this specific geographic area and to allow for reasonable comparison between cases in an era of intensified border enforcement. Although we limited the sample to people whose last crossing experience was less than six months ago, the overwhelming majority of MBCS respondents had undergone their most recent crossing attempt about a week prior to being surveyed. The methodology used to survey migrants in the MBCS is extensively detailed in a different article (Martinez et al. n.d.).

Sampling

Researchers randomly selected potential participants from four previously defined areas in the shelter and in a hallway while they returned from eating. We then screened those who had been randomly selected for eligibility and asked them to participate in the survey after it was determined that they had met the eligibility requirements. Overall, only 14 potential participants refused to participate in the study, yielding a 97% response

rate. Migrants' stay at the shelter was not contingent upon their participation in the survey.

The aim of the first wave of the MBCS was to generalize to repatriated migrants in the Tucson Sector during the study time period. The Tucson Sector includes an area that stretches from west of Lukeville, Arizona, to the Arizona-New Mexico border, and from the southern border with Mexico to the Utah State line. Since this study's entire sample consists of people who relied on the services of a shelter, one potential critique is that study respondents are in some way qualitatively different from people who did not stay in a shelter upon repatriation. I addressed this methodological concern by applying probability weights calculated from monthly Border Patrol apprehensions statistics during the study time period. The generalizability of the sample and comparisons of respondents' demographic characteristics to estimates of the study population are discussed elsewhere (Martinez et al. n.d.).

Variables Used in the Analysis

I conducted two separate multivariate analyses; the first examined who among all respondents was more likely to encounter bandits during their journey. The second analysis examines whether or not there appear to be significant differences in victimization rates among those who encountered bandits. This section describes the ways in which bandit encounters and different modes of victimization were operationalized and measured. In addition, I also describe the explanatory variables used in the analyses.

Dependent Variables

Encountered Bandits: This variable is a dichotomous variable indicating whether or not the respondent encountered a group of bandits during their most recent unauthorized crossing. People who encountered bandits were coded “1” and those who did not were coded “0”.

Bandit Victimization: An additional focus of this article is to examine differences in rates of victimization once it was determined whether or not migrants encountered bandits while crossing. I measured three different modes of victimization: verbal abuse, being robbed, and physical abuse. Each mode of victimization was measured as a dichotomous variable, with a “1” indicating that the specific type of victimization occurred and “0” noting that it did not.

Explanatory Factors: General Human Capital

Female: This variable is a dichotomous variable indicating whether or not the respondent was female. Females were coded “1” and males were “0”.

18-25 Year Old: This variable is a dichotomous variable indicating whether or not the respondent falls in the 18-25 year-old age group. The consensus in the extant literature on victimology is that younger people are at higher risk for crime victimization than older people. One limitation of this data set, however, is that the age variable is truncated on the lower end at 18, as we limited our survey to people 18 years of age or older. We established this criterion because we were sensitive to the possible heightened state of vulnerability minors may experience as a consequence of being deported, especially for those who are separated from their parents or guardians. It is possible that

this selection criterion is leads to a selection bias by omitting an entire segment of the population that is at highest risk for victimization—15, 16, and 17 year-old. Nevertheless, I hypothesize that people in the 18-25 age group will be more likely to encounter and be victimized by bajadores than migrants in other age cohorts.

Years of Education: This variable represents a respondent's number of years of formal education.

Household Income in Log Dollars: This variable measures the respondent's total monthly household income in dollars. A test in Stata 12 determined the variable was skewed right, therefore I calculated the natural log of total monthly household income [$\ln(x_{\text{household_income}})$] as a means of adjusting for skewedness. One would expect that respondents with higher levels of household income would be more likely to use a coyote over other crossing modes simply because they can afford to pay for the services. Yet a previous study examining modes of crossing found no statistically significant relationship between household income and crossing mode (Martinez n.d.). One explanation is that most migrants finance unauthorized crossings through interpersonal loans from family members or friends in the residing in the United States, or agree to make monthly payments to the coyote over the course of the next several years once they arrive to their desired destination. In light of these recent findings, I hypothesize that there is not relationship between monthly household income and fees paid to coyotes.

Explanatory Factors: Context of Crossing Attempt

Use of a Coyote or Guide: This variable indicates whether or not the respondent utilized a coyote or guide to cross the border. Respondents that used a coyote or guide were coded “1” while those that did not were coded “0”.

Number of Days Traveled: This variable represents the number of days a respondent spent traveling before either being apprehended or reaching a “drop house” in Tucson or Phoenix, AZ. The more time a person spends in the desert the more they are exposed to the danger of encountering and being victimized by bajadores, therefore I hypothesize that a higher number of days spent trekking through the desert is associated with an increased probability of encountering bandits

Explanatory Factors: Crossing Corridor

There are five general corridors in which migrants pass through when attempting an unauthorized border crossing along the Sonora-Arizona border: Sasabe/Altar, Nogales, Naco/Agua Prieta/Cananea/, Sonoyta, and San Luis/Algodones/Mexicali/Tecate. Each crossing corridor was coded as a dichotomous variable. A “1” indicates that the respondent crossed through that particular area, while a “0” denotes that they did not. Map 1 (below) illustrates each of the five possible migrant border-crossing corridors along the Arizona-Sonora border. The size of arrows represents an approximate proportion of respondents who crossed through that corridor.

Explanatory Factors: State-Level Controls

A Culture of Migration: I utilized factor analysis to create a construct representing a “culture of migration” or in each respondent’s state. Four different state level measures load into this factor: the percent of households with at least one member living in the United States during the past five years, the percent of households receiving remittances from the United States, the percent of households with at least one member that engaged in circular migration within the past five years, and the percent of households with at least one member that returned from living in the United States within the past five years. The data for the four variables used to construct the “culture of migration” factor come from estimates calculated by Mexico’s *Consejo Nacional de Población* (CONAPO) and are based on a sample of ten percent of the *XII Censo General de Población y Vivienda 2000*. Higher values on this factor are associated with a more extensive socially embedded culture of migration at the state level.

Marginalization Index: Mexico’s *Consejo Nacional de Población* (CONAPO) estimates *municipio* (county) and state level indices for marginalization every five years to measure varying levels of development within the country. Although I would have ideally included community level measures of marginalization in the inferential analysis, data limitations forced me to rely solely on the state level measures. CONAPO’s marginalization index, which ranks states from least marginalized to most marginalized, is estimated using a principle components method (Anzaldo and Prado 2005) and summarizes municipal and state levels of schooling, housing conditions, population density, and income characteristics (Anzaldo and Prado 2005; López-Córdova, Tokman,

and Verhoogen 2005). Marginalization is a structural factor that can increase a person's social risks and vulnerability (Anzaldo and Prado 2005), including crime victimization. The criminology literature has noted that neighborhoods with higher levels of concentrated disadvantage tend to have higher crime rates compared neighborhoods with lower levels of disadvantage (Elliot, Wilson, Huizinga, Sampson, Elliot, and Rankin 1996; Kurbin and Weitzer 2003; Sampson), which leads to an increased likelihood of crime victimization. Therefore I hypothesize that higher state levels of marginalization will be associated with higher levels of bajador victimization.

Handling Missing Data

Of the 415 cases MBCS cases utilized in this analysis, 326 had complete information for all variables of interest in the model examining bandit encounters. I was concerned that omitting 22% of the cases from the analysis sample through listwise deletion could bias regression coefficients due to the possibility of a systematic bias in cases for which data were unavailable. I attempt to overcome the methodological challenge by using multiple imputation (MI) to deal with missing observations, a technique that has gained popularity in recent years (Rubin 1987; Schafer 1997; Stata 2009). MI preserves valuable information that would be lost in inferential analyses if listwise deletion were used. Although listwise deletion is the conventional technique utilized by most social scientists to handle missing data, it can result in selection bias as well as loss of statistical power (Graham, Olchowski, and Gilreath 2007). Further, listwise deletion requires that the missing data be missing completely at random

(MCAR), whereas MI requires that the observations only be missing at random (MAR) (Allison 2002), thus MI makes less restrictive assumptions about the structure of missing data. Following the recommendation of Graham, Olchowski, and Gilreath (2007), we conducted twenty imputations ($m = 20$) using the multiple imputation by chained equations (MICE) method (Royston, 2004; 2009; van Buuren, Boshuizen, and Knook 1999). Each imputation substituted cases with missing information with unbiased plausible values using their predictive distributions in a separate dataset. We then estimated variable means and conducted multinomial logistic regressions on each of the imputed datasets and combined the results using “Rubin’s Rules” to yield coefficient estimates and standard errors (Rubin 1987 as cited by Graham, Olchowski, and Gilreath 2007).

Results and Discussion

Examining bandit encounters and victimization among unauthorized border-crossers involves a two-step process. One must first identify the factors that place migrants at increased risk for encountering bajadores while attempting an unauthorized crossing. It is likely that these factors are largely contextual: the size of one’s group, the number of days spent traveling, the crossing corridor used, or traveling with a coyote or guide. In other words, a person cannot be victimized by bajadores unless he or she first encounters them. Once I determine what factors contribute to bandit encounters, I can then examine whether victimization is random or patterned by these same factors in addition to individual level characteristics that have been shown to increase one’s

likelihood of victimization. This two-step model is somewhat similar to a methodological approach used in the social movements literature which examined movement mobilization as a two-step process: willingness to participate in a protests and actually having protested (see Beyerlein and Hipp 2006).

I begin by describing the descriptive statistics and results of the first analysis, which I call “bandit encounters,” and provide some vignettes to help humanize and contextualize the quantitative findings. I then follow by discussing the descriptive statistics and inferential results of a second analysis conducted using the sub-sample of migrants who encountered bajadores.

Descriptive Statistics for Bandit Encounters

Table 1 illustrates the descriptive statistics for encounters with bajadores and the explanatory factors used in the analysis, which can be categorized as general human capital/demographic characteristics, context of migrants’ most recent crossing attempt, the crossing corridor they utilized, and state level controls. The descriptive statistics were estimated using multiple imputations for missing observations. Just over one-in-three MBCS respondents reported encountering bajadores during their most recent crossing. The typical person in the sample can be described as a male, around the age of 32, with seven years of formal education, earning a monthly household income of around \$450 [exp(6.11)]. Seventy-two percent of migrants used a coyote to try to cross the border, and most likely crossed on the outskirts of Sasabe or Nogales, Sonora. On

average, migrants spent about two-and-a-half days traveling before either being apprehended or reaching a drop house in a city such as Tucson or Phoenix, AZ.

Binary Logistic Regression and Results for Bandit Encounters

Table 2 provides the binary logistic regression results for the full and reduced models used to predict migrant encounters with bajadores. I utilize binary logistic regression because this statistical technique is best-suited to examine a dichotomous outcome variable (Long 1997). Coefficients, significance levels, and standard errors are reported, with the standard errors noted in parentheses. The adjusted R-square statistic reported for each model was calculated by averaging the adjusted R-square statistics for each of the twenty imputations.

Model I consists of only the state level controls and demographic variables, whereas Model II also includes the contextual controls. Model III (the final model) includes the previously noted factors as well as the dummy variables representing the crossing corridors, with Nogales acting as the referent category. By incrementally adding theoretically-relevant conceptual groupings of variables to each model I am able to examine whether or not any of the relatively more proximate factors of interest (i.e., traveling with a coyote or crossing corridor) mediate the effects of more distal factors, such as state level controls, on the likelihood of encountering bandits.

I also tested to determine whether the inclusion of other theoretically-relevant individual or contextual factors would improve the overall fit of the model. For instance, ethnic origin (being an indigenous language speaker), lifetime crossing experience, the

size of one's group, and the season of crossing all possess theoretical merit for inclusion. Nevertheless, the addition of these variables did not yield statistically significant coefficients, nor did they improve the overall fit of the model.

As noted in Model III, none of the demographic variables included in the model statistically significantly explained bandit encounters. This finding contradicts much of the extant victimology literature which finds males, younger people, and those from lower socioeconomic background to be at highest risk for crime victimization. Rather, bandit encounters appear to be shaped by contextual factors related to one's most recent crossing attempt. Four factors best explicate people's encounters with *bajadores* while trying to cross the border: traveling with a coyote, a higher number of days spent in the desert, crossing through Nogales or Sasabe, and originating from a state with a pronounced "culture of migration."

Migrants and their families perceive that traveling with a coyote is a measure people can take to decrease the probability of apprehension as well as the risk of physical injury. However, my analysis illustrates that traveling with a coyote actually *increases* the odds of encountering *bajadores* while crossing. In fact, when controlling for all other factors, people who travel with a coyote are nearly 2.5 times more likely [$\exp(0.90)$] to encounter *bajadores* than people who travel with family, friends, or alone. Although Model III does not differentiate between coyote types, a separate analysis (omitted) found that the type of coyote one travels with (e.g. "border business" versus "interior" coyote) does not make a substantial difference—traveling with either coyote type increased the odds of encountering *bajadores* by more than two-fold compared with traveling with

family/friends or alone. Overall, there appears to be an interesting paradox. In an effort to reduce risk of apprehension and injury by hiring a coyote, migrants may actually be putting themselves at higher risk of encountering and quite possibly being victimized by bajadores. The following vignette describes the experiences of one our respondents and his suspicion that some coyotes may actually be working with bajadores to take advantage of their clients.

Jaime, a 50 year old recently separated male originally from Puebla was on his way to Las Vegas, Nevada, from Mexico City, not to work, but rather to spend time with family. He has relatively little migration experience for his age—just two lifetime crossing attempts. Although Jaime had lived in the United States for nine years, that was already 15 years ago, and things along the border had changed substantially since his last crossing.

He left Mexico City, where he had been working at a flower shop earning about \$720 a month, and arrived at the Nogales, Sonora, bus station and met a coyote who agreed to take him to Las Vegas for \$1,800. The coyote assembled a group of six people and began guiding the group along the border wall on the outskirts of Nogales, Sonora. Shortly after they set out, the group was stopped by bajadores and Jaime was robbed of \$240.

A few hours later Jaime and his fellow travelers, including the coyote, were picked up by the Border Patrol while walking along a highway outside of Nogales, Arizona. When asked if he would give it another try, he responded “no—the guides deceive you, and the bajadores rob and rape people. I think the guides and the bajadores work with each other to take advantage of migrants.” [Case ID: 72920098101]

The notion that some groups of coyotes coordinate with bajadores to exploit migrants is something that frequently came up in our conversations with our respondents. First-hand accounts from our respondents find that many migrants believed that the coyote was working with bandits because the guides were seldom robbed by the stick-up crews. However, one limitation of this study is that I am unable to definitively parse out

whether coyotes are directly benefiting from encounters with bajadores, such as sharing in a cut of the take, or benefit indirectly by being allowed to “do business” in the area as long as they lead their clients into certain areas to be victimized by stick-up crews.

Previous studies on *coyotaje* in south Texas (Spener 2001; Spener 2009; and Izacara Palacios 2011) have found that migrant smuggling still remains a largely informal enterprise in which coyotes see themselves as sharing a common goal with migrants: avoiding detection by U.S. authorities. While this still may still be the case, as previously noted, traveling with an “interior” coyote does not appear to serve as a protective factor against encountering bandits, whereas *not* traveling with a coyote does. And while coyotes and migrants may share a common objective—avoiding the Border Patrol—that particular frame alignment is not at odds with the notion that guiding one’s group into the path of bandits is a cost of “doing business” as a coyote along the Sonora-Arizona border. Ultimately, it appears that one of the many consequences of increased border enforcement is that migrants and their guides are increasingly being pushed into areas controlled by drug trafficking organization and frequented by drug mules and bajadores.

I must note that the causal relationship between coyote use and bandit encounter may be the inverse of what I have detailed above. In other words, a possible alternative explanation for the relationship between traveling with a coyote and encountering stick-up crews is that areas utilized by coyotes are more frequented and predictable when compared to the areas used by migrants who do not travel with a smuggler. Therefore it is possible that bajadores are simply more aware of coyotes’ crossing strategies.

Nevertheless, this does not help explain why migrants often mention that the coyotes themselves are seldom robbed.

The amount of time a migrant spent wandering the desert during their most recent crossing experience also appears to be associated with an increased likelihood of encountering *bajadores*. For instance, each additional day spent in the Sonoran desert while crossing increases the odds of encountering bandits by nearly 20% [$\exp(0.17)$]. The corridor one uses while crossing also appears to influence the chances of encountering bandits. For example, migrants who crossed through Nogales or Sasabe corridors are more likely to have encountered migrants than those who crossed through other corridors. According to the results reflected in Model III, people who cross through the San Luis Rio Colorado, Sonoyta, and Naco/Agua Prieta corridors are 79%, 82%, and 94% less likely to encounter bandits compared to those who cross near Nogales, respectively. Pedro's experiences described in the following vignette convey the relationship between these factors and encountering bandits.

Pedro is a 39 year old male from Michoacán who last crossed the border about a week before being surveyed. Pedro had been working as an *albañil* [mason] in Michoacán making about \$480 per month, but had stopped working nearly six weeks ago. With four children and a common-law wife at home, he needed to find work soon. Pedro has family and friends currently working in Washington, so he decided to try his luck there. He was hoping to stay at least one year, but wasn't entirely sure how long he'd stay. Pedro is a relatively experienced border-crosser with five lifetime crossing attempts, and had even lived in the United States for six years. He thought he had an idea of what to expect.

Along with some friends, Pedro made his way from Michoacán to Altar, Sonora, where he met a coyote who agreed to guide them across the border near Sasabe and take them to Washington for \$1,200 apiece. Pedro had made arrangements with a friend to help pay the costs of the crossing.

The group of 12 spent five days wandering the desert, despite being told by the coyote that they would only be walking one day. Along the way the group encountered bajadores and Pedro was robbed of \$800 pesos.

On the fifth and final day, the group was spotted by a Border Patrol helicopter. Not long after two agents located and apprehended all twelve migrants, including the coyote. When asked if he would like to try again, Pedro said he didn't think so because "walking a lot is very difficult for me." [Case ID: 06170860024]

Finally, when controlling for demographic characteristics, traveling with a coyote, the number of days spent crossing, and a person's crossing corridor, it appears that coming from a state with a longer or more socially-embedded culture of migration reduces the chances of encountering bajadores. Recall that including cumulative lifetime crossing experience and measures of social capital in the analyses neither improved the overall fit of the models, nor did it yield significant coefficients. Therefore there appears to be something about being from a region with a "culture of migration" beyond individual level experience and social ties that serves as a protective factor against running into bandits during the journey. The following vignette details the experience of David, a 30 year-old migrant from Veracruz. Unlike some states in West-Central Mexico, Veracruz does not have a notable nor lengthy history of migration to the United States.

David left Jalapa, Veracruz, for Chicago, Illinois, in search of work. He was planning on possibly staying two or three years, and had already lived in the United States for about a year and a half. Things were not going very well at home financially. David had been working as a carpenter in Veracruz making about \$200 a month, but then lost his job just over two months ago. He has four children and a wife to support. Some of his friends in Chicago said they could get him a job.

David spent two days walking through the desert with a group of ten migrants and a coyote he had met in Sonoyta through a friend's referral. The coyote agreed to charge him just \$1,200, which some of this family members planned on paying.

Along the way the group was stopped by a group of bajadores and David was robbed of all of his money. The next day the group was intercepted by three Border Patrol agents. When asked if he was planning on crossing again he replied "no, it's a lot of walking, it just can't be done anymore." [Case ID: 03210820075]

Although possessing previous migration experience and extensive ties in the U.S.—ties he even used to secure the services of a coyote—David also happens to be from a state in Mexico with a relatively less socially-embedded culture of migration. Only 3% of households in Veracruz reported having a member abroad at any point during the five year span prior to the 2000 Mexican census, compared to over 12% of households in the West-Central state of Zacatecas. There is something about being from a community with a notable culture of migration that serves as a protective factor against bajador encounters beyond individual-level factors and contextual controls. It is likely that information on crossing strategies, where to cross, and how to protect one's self during the journey is vital information that flows transnationally and is exchanged by migrants and non-migrants alike.

Most quantitative studies examining unauthorized migration have operationalized "social capital" or the "migrant network" in a metaphorical sense (Krissman 2005), the present study included, in which they simply control for whether or not a person has a family member or friend in their desired destination. It is likely this approach is simply inadequate in terms of fully accounting for how people acquire information about the migration process. Having a strong tie to someone in the United States may be important

for getting information about housing and employment, but less effective at conveying information on the unauthorized crossing process, especially when considering that increased border enforcement has led to longer spells in the United States. Ultimately, the state level measure of a “culture of migration” utilized in this study is accounting for variation in bandit encounters that are not being picked up by measures of social capital and previous migration experience. Whether this is truly a “cultural” phenomenon or one attributed to a better measure of the migrant network deserves further attention by researchers.

Descriptive Statistics for Bandit Victimization

Table 3 provides the descriptive statistics for the most recent crossing experience of the 136 migrants who reported encountering bajadores along the way. Overall, 77% of people who encountered bajadores reported experiences verbal abuse, including being threatened with *cuernos de chivo* or AK-47 assault rifles. Seventy-five percent indicate they were robbed by members of the stick-up crews, and 33% report being physically or sexually abused. Women made up right around 11% of the people who encountered bandits, compared to 14% of the entire sample. Although women appear to be slightly underrepresented among migrants who encountered bandits, recall that there was no statistically significant difference between men and women in terms of encountering bajadores. Nearly 30% of respondents who encountered bandits were between the ages of 18 and 25, with an average number of seven years of formal education and a mean household income of about \$520.

Eighty-percent of respondents who encountered stick-up crews used the services of a coyote, had spent an average of 2.7 days in the desert while, and 38% had crossed near Nogales. Recall that people who had traveled with coyotes, spent more time in the desert, and had crossed near Nogales were all significantly more likely to have encountered bandits along the way. Do these same patterns hold in terms of explicating variation in those who were robbed, verbally abused, and physically abused, or do these events occur at random among those who have come across stick-up crews?

Binary Logistic Regression Results for Bandit Victimization

Table 4 shows the results for three separate binary logistic regression models estimating verbal abuse, physical abuse, and being robbed by bajadores. The analyses were limited to the subsample of 136 respondents who encountered bajadores during their journey. None of the explanatory factors included in the model statistically significantly explained variation in physical abuse, and household income was the only variable that seemed to explain verbal abuse, with higher incomes being associated with higher rates of verbal abuse, however, this finding is only significant at the 0.10 alpha-level and therefore must be interpreted with caution. The notion that household income does not help explicate being robbed leads me to question the validity of the association between this variable and verbal abuse.

Two factors, however, do seem to be important in explicating being robbed: age and the amount of time one spent in the desert while crossing. Interestingly, migrants in the 18-25 age group were actually 72% *less* likely to be robbed than people in older age

ranges. This finding contradicts the extant literature that suggests younger people, on average, are *more* likely to be victims of overall violent crime. However, the literature on risk tolerance/aversion also says that younger people are more likely to take risks than older people. It is possible that migrants between the ages of 18 and 25 are simply more likely to resist or fight back during robbery attempts, something that would be consistent with the notion that this demographic group tends to be risk- or sensation-seeking.

Similar to the models explicating encounters with bajadores, the amount of time a person spent in the desert also helps explain being robbed. In fact, “days traveled” is only variable that is statistically significant in the “encounter bandits” model and at least one of the models explaining specific abuse types. According to table 4, among those who encountered bandits, each additional day spent traveling in the desert increases one’s likelihood of being robbed by 40% [$\exp(0.33)$]. This particular result is consistent with the underlying logic of the opportunity theory of crime and Routine Activities Theory. Essentially, the more time one spends in remote area of the desert, the greater their “opportunity” to encounter and be victimized by bajadores.

Conclusions

Migrant encounters with bajadores have become rather common-place in southern Arizona—one in three migrants surveyed in the MBCS encountered bajadores while crossing the border, and among those who encountered bandits, over 70% were verbally abused or robbed. However, what factors can explicate encounters with and

victimization by bajadores? I drew on the migration and victimology literatures to attempt to address these important questions.

Overall, the risk of encountering bajadores does not appear to be higher for males, young adults, those with less education, or those who are more impoverished—results which contradict conventional perspectives in American victimology literature. While individual level factors offer little insight, there do appear to be important contextual predictors of bandit encounters while crossing. Crossing near Nogales and Sasabe, as well as spending more time in the desert increase people's odds of encountering bajadores. These findings are consistent with the underlying propositions of Routine Activities Theory and the Opportunity Theory of crime.

With the exception of crossing corridor and time spent in the desert, no other factor increases the risk of encountering bandits more than traveling with a coyote. In fact, people who travel with a coyote were two-and-a-half times more likely to encounter bajadores than those who did not rely on smuggling services. This finding presents an interesting paradox for the sociological understanding of the unauthorized migration process. Research has found that migrants view using a coyote as vital to reducing one's risk of apprehension, serious injury, or even death. Nevertheless, by attempting to mediate these risks, migrants who rely on the services of a coyote actually place themselves at higher risk for encountering stick-up crews in the desert. Although some migrants suspect coyotes and bajadores work together to exploit migrants, it is difficult to systematically untangle the relationship between these actors. Are coyotes working with bajadores and sharing in the take from migrants, or do coyotes take groups of migrants

through areas controlled by bajadores as a form of tax to access the territory? Or are bajadores simply opportunistic criminals who have insider knowledge of when and where coyotes will cross with their groups? These questions deserve further attention in the literature.

The only factors that help explicate variation in specific abuse types among those who encounter bajadores are age and the number of days spent traveling in the desert. Interestingly, younger people are less likely to be robbed by bandits, perhaps because they are the more likely to resist or fight back. As with encountering bandits, migrants who spend more time traveling in the desert are more likely to report being robbed.

Encounters with and victimization by bajadores are just two of the many consequences of increased border enforcement efforts that have pushed migrants into remote crossing corridors. These encounters speak largely to the way in which migrants have become commodified within smuggling operations over the past few decades. People are increasingly seen as cargo or as objects with exploitative value. Unauthorized migration, which was once largely an informal social process that occurred within community networks, has been pushed deeper into an informal and dangerous underground economy as a direct result of heightened security.

The solutions to stemming unauthorized migration flows are extremely complex and beyond the scope of this paper; however, the answer likely does not lie in border militarization. Unauthorized migration flows are a global phenomenon that requires global solutions. Rather than stem future migration flows, continued militarization of the

U.S.-Mexico border will only continue to result in numerous negative consequences and human rights violations of unauthorized migrants.

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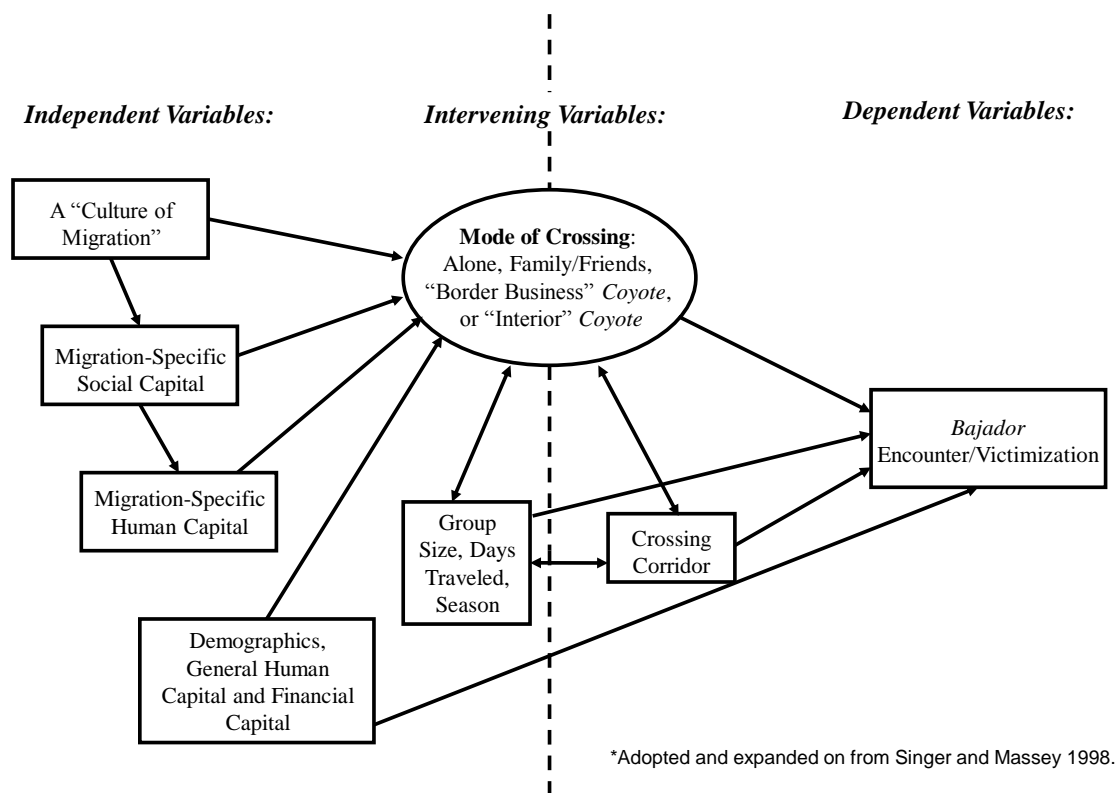
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Figures and Tables

Figure 1. Conceptual Model for *Bajador* Encounter and Victimization

Map 1. Arizona-Sonora Borderlands and Migrant Crossing Corridors



Sources of Map: © 2012 Cnes/Spot Image, © 2012 INEGI, © 2012 Google, Image © TerraMetrics

- A. Altar/Sasabe (45%)
- B. Nogales (26%)
- C. Naco/Cananea/Agua Prieta (13%)
- D. Sonoyta (12%)
- E. San Luis Rio Colorado/Mexicali (5%)

Table 1. Descriptive Statistics for Bandit Encounters and Explanatory Variables Used in the Analysis (Multiply Imputed Data)

	Mean (Coef.)	Std. Err.
Dependent Variable		
Encountered Bandits	0.31	0.032
General Human Capital		
Female	0.14	0.031
18-25 Years Old	0.28	0.028
Years of Education	7.07	0.229
Household Income (in log dollars)	6.11	0.096
Context of Crossing Attempt		
Used a Coyote or Guide	0.72	0.033
Days Traveled	2.44	0.108
Crossing Corridor		
Sasabe	0.45	0.036
Nogales	0.26	0.033
Naco	0.13	0.026
Sonoyta	0.12	0.020
San Luis/Algodones/Mexicali/Tecate	0.05	0.016
State Level Controls		
A Culture of Migration	0.07	0.066
Marginalization Index	0.38	0.090
m = 20		
N = 415		

Table 2. Logistic Regression Results for Bandit Encounter and Explanatory Variables Used in the Analysis (Multiply Imputed Data)

	Model I	Model II	Model III
General Human and Financial Capital			
Female	-0.22 (0.41)	-0.44 (0.46)	-0.28 (0.49)
18-25 Years Old	0.17 (0.30)	0.06 (0.29)	-0.03 (0.30)
Years of Education	-0.02 (0.04)	-0.02 (0.04)	-0.03 (0.04)
Household Income (in log dollars)	0.20 (0.13)	0.22 (0.14)	0.19 (0.15)
Context of Crossing Attempt			
Used a Coyote		0.71† (0.39)	0.90* (0.41)
Days Traveled		0.16† (0.09)	0.17* (0.09)
Crossing Corridor			
Sasabe/Altar			-0.54 (0.39)
Sonoyta			-1.69** (0.56)
Naco/Agua Prieta/Cananea			-2.80*** (0.73)
San Luis/Algodones/Mexicali/Tecate			-1.58† (0.92)
State Level Controls			
A Culture of Migration	-0.44* (0.17)	-0.51** (0.17)	-0.39* (0.17)
Marginalization Index	-0.05 (0.12)	-0.06 (0.12)	-0.04 (0.13)
Adjusted R-Squared	0.028	0.062	0.115
m = 20			
N = 415			

Note: †p < 0.10, *p < 0.05, **p 0.01, ***p < 0.001

Table 3. Descriptive Statistics for Bandit Robbery and Abuse and Explanatory Variables Used in the Analysis (Multiply Imputed Data)

	Mean (Coef.)	Std. Err.
Dependent Variable		
Verbally Abused by Bandits	0.77	0.05
Robbed by Bandits	0.75	0.06
Physically Abused by Bandits	0.33	0.04
General Human Capital		
Female	0.11	0.03
18-25 Years Old	0.29	0.05
Years of Education	7.19	0.41
Household Income (in log dollars)	6.25	0.14
Context of Crossing Attempt		
Used a Coyote or Guide	0.80	0.05
Days Traveled	2.70	0.19
Crossing Corridor		
Nogales	0.38	0.06
State Level Controls		
A Culture of Migration	-0.05	0.12
Marginalization Index	0.31	0.15
m = 20		
N = 136		

Table 4. Logistic Regression Results for Bandit Robbery or Abuse and Explanatory Variables Used in the Analysis (Multiply Imputed Data)

	Verbally Abused	Robbed	Physically Abused
General Human and Financial Capital			
Female	-0.59 (0.71)	0.54 (0.86)	1.12 (0.70)
18-25 Years Old	-0.91 (0.66)	-1.28* (0.57)	-0.18 (0.61)
Years of Education	-0.02 (0.07)	0.12 (0.08)	-0.01 (0.09)
Household Income (in log dollars)	0.46† (0.27)	-0.05 (0.25)	0.20 (0.27)
Context of Crossing Attempt			
Used a Coyote	-0.28 (0.66)	-0.72 (0.67)	-0.36 (0.74)
Days Traveled	0.06 (0.15)	0.33* (0.14)	0.28 (0.18)
Crossing Corridor			
Nogales	1.14 (0.69)	0.12 (0.58)	0.68 (0.63)
State-Level Controls			
A Culture of Migration	-0.10 (0.28)	0.04 (0.30)	-0.54 (0.36)
Marginalization Index	0.25 (0.24)	0.25 (0.21)	-0.03 (0.19)
Adjusted R-Squared	0.078	0.062	0.087
m = 20			
N = 136			

Note: †p < 0.10, *p < 0.05, **p 0.01, ***p < 0.001