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Cassandra E. DiRienzo¹ and Jayoti Das¹

Abstract

The primary purpose of this study is to empirically test whether neighboring countries within the Schengen region have similar human trafficking prevalence rates. It is argued that the free flow of persons across borders in the region impacts human trafficking in two ways. First, it lessens many of the transportation challenges and costs faced by human traffickers. Second, it enhances the ability of traffickers to acquire knowledge about neighboring countries in regard to policing, demand for trafficked persons, and terrain, which enables trafficking networks to spread. The Moran Index, a measure of spatial autocorrelation, is used to test the hypothesis using the Global Slavery Index's proportion of country population living in slavery, a proxy for human trafficking. The Moran Index is significant and positive in the Schengen region, indicating that country neighbors within the region tend to have similar human trafficking prevalence rates. The Moran Index is calculated in other global regions (Africa, Asia, and North and South America) in addition to Schengen border itself, and the index is insignificant in these areas, which offers evidence that the relationship between neighboring countries within the Schengen region is unique. Policy implications of these findings are offered.

Keywords

human trafficking, cross-border relations, spatial autocorrelation, Schengen region

The atrocities of slavery, sadly, do not live in our history books but are very much alive today. While the circumstances giving rise to modern-day slavery differ than those of the past, the outcome is the same; individual liberties are held hostage for the sake of exploitation.

The term slavery has been used to describe a variety of abuses such as forced prostitution, prison labor, low-paid wage labor, forced and bonded labor, domestic servitude, pornography, organized begging, organ harvesting, and segregation (Agbu, 2003; Bales, Trodd, & Williamson, 2009; U.S. Department of State, 2016). In reference to modern-day slavery, in the Global Slavery Report (2014, p. 10), the Walk Free Foundation defines the term as, "one person possessing or controlling another person in such a way as to significantly deprive that person of their individual liberty, with the intention of exploiting that person through their use, management, transfer or disposal." As Bales,

¹ Elon University, Elon, NC, USA

Corresponding Author:

Cassandra E. DiRienzo, Elon University, Campus Box 2075, Elon, NC 27244, USA.
Email: cdirienzo@elon.edu

Trodd, and Williamson (2009) discuss, almost every culture and time period have experienced slavery in some form; however, regardless of its form, these practices represent a gross assault on personal freedoms.

Human trafficking plays an intrinsic role in modern-day slavery, as it is a conduit to bring people into one of the forms of slavery. In the United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children (2000), human trafficking is defined as

the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation.¹

It is important to note that human trafficking is just one of the means in which people become enslaved, and, by far, not all people who are living in modern-day slavery were trafficked. As Bales et al. (2009, pp. 39–40) discuss, human trafficking “. . . is the crime of carrying someone into slavery by force or by fraud” and is a crime regardless of whether or not the person goes willingly with the trafficker. In short, human trafficking is one of the many ways a person can become a modern-day slave, and the focus of this study is the practice of human trafficking.²

Although many are unaware of the practice, according to the United Nations (2012), human trafficking is the fastest growing form of organized crime and, in the next 10 years, crime experts anticipate that human trafficking will become the largest form of organized crime in its incidence, surpassing both drug and arms trafficking (Wheaton, Schauer, & Galli, 2010). In reference to the statistics, the U.S. State Department Trafficking in Persons Report (2012) estimates that each year approximately 600,000–800,000 men, women, and children are trafficked across international borders and are forced to join the 27 million people who are estimated to be currently living in modern-day slavery. The people who fall victim to human trafficking tend to be from vulnerable populations such as those living in high poverty, single mothers, and children. The majority of these individuals are economically driven and seek low-skilled labor opportunities. Traffickers prey on these individuals by deceiving them with promises of respectable work and a better life, and once ensnared and relocated, the victims’ passports and identification are often confiscated (Adepoju, 2005; Gajic-Veljanoski & Stewart, 2007). Without passports and typically without an understanding of the crime and their legal rights (if any), these victims are often controlled through violence, coercion, and threats (Bales et al., 2009; Sigmon, 2008).

In reference to human trafficking research, Cho (2015) states that it is still in its infancy; however, there is a small but growing body of literature exploring the drivers of human trafficking. Specifically, in empirical studies, Bales (2007), Cho (2015), and Rao and Presenti (2012) have found that crime prevalence, income, political instability, press freedom, and freedom of information significantly affect the prevalence of human trafficking. In sum, these studies generally conclude that impoverished, unstable regions create the incentive for people to leave and seek a better life. These factors such as poverty, political instability, and conflict are considered the primary supply or “push factors” to human trafficking. Further, the presence of crime prevalence, especially organized crime, can play a role in facilitating trafficking, as established criminal organizations tend to have underground networks and systems that are already in place (Cho, 2015). Finally, the demand for trafficked victims, or the “pull factors,” must also exist. Cho (2015) finds that wealthier countries tend to receive more human trafficking victims compared to lower income countries as wealthier regions tend to have a greater need for low-skilled labor and the means to pay the traffickers.

Interestingly, to the best of the authors’ knowledge, country border regimes have yet to be empirically explored as a factor in human trafficking. While it is important to note that the crime of human trafficking does not require a person to be moved across international borders as some

victims are trafficked from poorer to wealthier districts within country (Bales et al., 2009), it is clear from the United Nations Office of Drugs and Crime (2014) and U.S. Department of State (2012) reports and the global trafficking patterns described by Aronowitz (2009), Shelley (2010), and Batstone (2007), among others that a significant number of persons are trafficked legally or illegally across international borders. It is argued here that border controls should factor into human trafficking patterns for two primary reasons.

First, from a logistical perspective, tightly controlled borders raise the costs and challenges to the trafficker through bribe payments, obtaining legal or illegal travel documentation, and an increase in the chance of being apprehended. As Jac-Kucharski (2012) discusses, traffickers incur higher costs when victims need to be moved across borders that require passport and security checks, and Shelley (2010) states that traffickers purposely avoid well-policed and border checkpoints. Second, if there is relative ease of movement across country borders, this allows traffickers to acquire firsthand information relevant to human trafficking in neighboring countries. Specifically, in order to expand trafficking networks into other countries, traffickers are likely to need knowledge about the country's terrain, policing, checkpoints, and demand for trafficked persons, among other factors. If there is a relative free flow of persons across country borders, this allows traffickers to obtain this knowledge through firsthand observation and experience. In short, if the practice of human trafficking exists in one country and it is relatively easy to cross into bordering countries, this should enable the movement or expansion of the crime, all else equal.

This has interesting implications for neighboring Schengen countries. The Schengen agreement was signed in June 1985 and supplemented in 1990 by the Schengen convention. The agreement established a "borderless" region in Europe by effectively abolishing internal border controls within the region. The region currently contains all of the Europe Union (EU) countries with the exception of the United Kingdom and Ireland and includes three non-EU countries such as Iceland, Norway, and Switzerland. Traveling within this region is similar to traveling within a single state; there are external border controls when entering and exiting the Schengen region, but no internal border controls, allowing free movement across internal, Schengen–Schengen country borders. Further, the Schengen region also borders much of the impoverished area of eastern Europe, and as Bales (2007) and Andrijasevic (2003) discuss, the fall of communism has led to an ongoing, economically driven flow of migrants from eastern to western Europe.

In sum, the Schengen region offers unique set of parameters for human trafficking: The lack of internal borders, which eases transportation costs and enhances the information flow to traffickers; a supply of economically driven, vulnerable migrants (the push factor); and a region that is one of the wealthiest in the world (the pull factor). The objective of this analysis is to empirically test whether neighboring Schengen–Schengen countries have a similar prevalence, or incident rates, in human trafficking. In other words, has the free flow of persons across Schengen–Schengen country borders created a relationship between Schengen country neighbors that is unique to this global region? The Moran Index, a measure of spatial autocorrelation, is used to test this hypothesis using the Global Slavery Index's (2014) proportion of country population living in slavery.

Background on Human Trafficking and Why Borders Should Matter

As noted above, there is a growing body of literature offering empirical evidence of the human trafficking demand (push) and supply (pull) factors. In short, these studies conclude that poverty, instability, and turmoil are the push factors creating the impetus for people to leave and seek a better life (Bales, 2007; Cho, 2015; Rao & Presenti, 2012). On the other side of the transaction, Cho (2015) finds that wealth is a significant pull factor and that wealthier countries are more likely to be destination countries and Bales (2007) describes "opportunity," or the demand for low-skilled labor, as a significant pull factor. Nonetheless, as Jac-Kucharski (2012) states, many countries are poor and

autocratic, but not all of them have a high prevalence of human trafficking. While the factors identified in the previous literature create an environment that is ripe for human trafficking, it is important to note that not all countries with these characteristics have a high prevalence level of human trafficking. It is argued here that the role country borders play in the human trafficking operation has been possibly overlooked, at least empirically, and borders can explain at least part of the occurrences of human trafficking.

Although to the authors' knowledge no study has empirically tested the relevance of country borders, borders have been theoretically discussed as having a role in the human trafficking operation. Specifically, Andrijasevic (2003) discusses the intrinsic link between trafficking and matters of the border such as illegal migration, enforcement of border regimes, and stricter immigration policies. The relationship between country borders controls and trafficking is discussed in detail by Berman (2003) who describes how government officials and media tend to gravitate to the actual border violation associated with the crime, as opposed to the factors driving the crime. Further, in the context of the repatriation of human trafficking victims, Segrave (2009) finds that even in locations that vary significantly in terms of politics, socioeconomics, and culture, the border plays a critical role. Broadly, this research suggests that border controls play a role in the human trafficking operation; however, it is argued here that border regimes are perhaps more relevant than previous research suggests.

In reference to the costs and challenges to the trafficker, moving people across borders, legally or illegally, is higher when borders are tightly controlled. From the trafficker's perspective, strict border regimes can increase the time and difficulty of crossing and the prospect of being apprehended. Tightly controlled borders may require the trafficker to pay bribes and/or provide costly legal or illegal travel documentation. As Jac-Kucharski (2012) notes, there are environmental factors that create a potential pool of victims, but it is the operational costs for the trafficker that impacts the number actually trafficked. In these operational costs, Jac-Kucharski (2012) includes the costs associated with the trip and the likelihood of being caught, both of which increase with tighter border controls. In an effort to work around border controls, Mahmoud and Trebesch (2009) discuss the rise of shadow migration industries that offer border crossings as part of their services. While the percentage of trafficking victims who cross borders illegally cannot be known with certainty, a German study found that 42% of all registered sex trafficking victims crossed borders illegally (Cyrus, 2005). Thus, the percentage of trafficked victims who illegally cross borders is not insignificant and the relative ease of moving individuals across an international border must factor into the calculations and strategies of the traffickers. While traffickers can undoubtedly recoup these costs in the "successful" delivery and sale of a trafficked victim, the challenges and costs of crossing a tightly controlled border must factor to some extent into the decision-making and strategies of the trafficker. In short, as Shelley (2010) describes, traffickers knowingly avoid well-policed routes and checkpoints, and as Aronowitz (2009) discusses, there are links between origin and destination countries and these links are influenced by several factors including the weaknesses in border controls and the ease of crossing borders. Thus, from a logistical perspective, border regimes should not be underscored as a relevant factor in human trafficking.

Country border regimes also affect the ability of traffickers to acquire information about neighboring countries that is relative to human trafficking. If traffickers are able to move with relative ease across country borders, they can more readily obtain firsthand knowledge of the terrain and identify areas with a greater police presence. This kind of information also lowers costs, as it reduces the chance of being apprehended. Further, if traffickers can easily cross into neighboring countries, information about the demand for trafficked persons within the neighboring country can be easier to obtain. In sum, if a trafficking organization exists in a country, weak border controls should enable the movement or expansion of the crime into neighboring countries, all else equal.

As discussed, given its lack on internal borders and proximity to both the “push” and “pull” human trafficking factors, the Schengen region is a globally distinctive area to study human trafficking. It is hypothesized that contiguous Schengen country neighbors will have similar levels of human trafficking or similar per capita rates of human trafficking victims. Specifically, if a Schengen country has a relatively higher human trafficking rate, it is hypothesized that its Schengen country neighbor(s) will as well. Further, if a Schengen country has a relatively lower rate of human trafficking, so will its neighbor(s). In other words, if human trafficking is (relatively) prevalent in a Schengen country, all else equal, there is a greater chance that it has spread to its Schengen neighbor(s) due to the free flow of persons across the country borders.

This hypothesis is empirically tested using the Moran Index, a measure of spatial autocorrelation. Further, in an effort to offer additional evidence that the contagion effect is unique to Schengen region due at least in part to the internal border agreement, the Moran Index is calculated in other global regions; specifically, Africa, Asia, and North and South America and the index values across the different regions are compared. The Moran Index is also calculated for Schengen countries that border non-Schengen countries or the “external” Schengen border. A positive and significant Moran Index within the Schengen region coupled with insignificant Moran Indices in the other four areas will suggest that the relationship between Schengen–Schengen countries is not only different from other global regions but also different from the relationship between Schengen and non-Schengen countries. A discussion of the data and method is as follows.

Data and Method

Cho (2015), Crane (2013), Gajic-Veljanoski and Stewart (2007), and Mahmoud and Trebesch (2009) are among the many researchers who have noted the difficulty of obtaining reliable, representative data on human trafficking. Gathering high-quality human trafficking data is exceptionally challenging as trafficking is by nature a clandestine activity and most victims are unable to report the crime. As Aronowitz (2009, p. 15) states, “(b)ecause of its clandestine nature and the hidden economies in which trafficked victims are forced to work, accurate statistics on the magnitude of the problem are elusive and available statistics are notoriously unreliable.” Thus, any measure of human trafficking should be considered an estimate of a true, but unknown value.

In a recent report published by the Walk Free Foundation, the Global Slavery Index (2014) offers one of first estimates of the prevalence of people living in modern slavery at the country level. The Walk Free Foundation provides this estimate for 167 countries and offers an extensive description of their method. The method is largely based on surveys, which the Walk Free Foundation states is the most accurate method for estimating the prevalence of victims. In brief, for its most recent publication, the Walk Free Foundation commissioned Gallup World Poll to conduct a series of nationally representative, random sample surveys in seven countries (Brazil, Ethiopia, Indonesia, Nepal, Nigeria, Pakistan, and Russia). These countries were selected for the most recent publication to fill previous gaps in survey data and to ensure regional representation. Further, the Walk Free Foundation notes that these countries were selected, as these surveys are best conducted in source countries where migrant workers are free to speak upon their return (Global Slavery Index, 2014, p. 116). The results of these surveys were considered with previous survey results alongside an extensive review of secondary sources from 58 countries. These results were used in extrapolation and clustering methods that took into consideration factors such as country vulnerability measures and geography to create preliminary prevalence estimates. These estimates were subjected to review against over 4,000 secondary source estimates and qualitative information. During this review process, some final country adjustments were made when there was enough evidence to warrant revision (Global Slavery Index, 2014, p. 12).

At the high prevalence end of the spectrum, the Walk Free Foundation estimates that 4.0% of population in Mauritania live in modern slavery, and the highest estimated prevalence of the 167 countries. Uzbekistan closely follows with an estimated 3.9729% of its population living in modern slavery. Haiti, Qatar, and India make up the remaining top five countries with the next highest prevalence estimates of 2.3041%, 1.3563%, and 1.1409%, respectively. At the opposite end of the spectrum, Iceland and Ireland have the lowest prevalence estimates of 0.007% and are closely followed by Norway, New Zealand, and Luxembourg, each with prevalence estimates of 0.013%. It should be noted that some of the island countries are found at the low end of the prevalence spectrum.

The prevalence estimates provided by the Walk Free Foundation are used in this study as a proxy of the degree of human trafficking at the country level. It is important to note that the Global Slavery Index is a measure of the prevalence of those living in modern slavery and human trafficking victims are a subset of this population. Further, although the estimates are calculated through extensive research by area experts, the method used to construct the Global Slavery Index has been criticized (Gallagher, 2014). Specifically, Gallagher (2014) challenges the quality of the Global Slavery data and the vagueness of the method, especially the extrapolation and clustering methods, which the Walk Free Foundation uses to estimate the prevalence values. Thus, it is important to highlight the shortcomings of these data or any method attempting to measure the prevalence of highly clandestine criminal activity such as slavery and/or human trafficking.

Acknowledging the data limitations, the Moran Index is used to empirically test the hypothesis that Schengen–Schengen country neighbors have similar levels of human trafficking. The Moran Index is a statistical technique that measures spatial autocorrelation and is used here to test if neighboring Schengen–Schengen countries tend to have similar human trafficking prevalence rates. Specifically, if a Schengen country has a human trafficking prevalence level of x , do(es) its Schengen country neighbor(s) have human trafficking prevalence level(s) that are/ is “close” to x ? Stated alternatively, do countries with similar human trafficking prevalence levels tend to be geographically close to each other such that human trafficking prevalence rates are spatially positively correlated in the Schengen region? Such a relationship would suggest that a country with a relatively higher human trafficking prevalence rate would neighbor country(ies) that also have relatively higher human trafficking rates. This also suggests that a country with a relatively low human trafficking prevalence level would tend to border country(ies) with lower levels.

The Moran Index is similar to a correlation coefficient in that it ranges from -1 to $+1$ and positive values, or positive autocorrelation, occur when nearby points have similar values. In this case, positive autocorrelation will occur when neighbor countries have similar prevalence levels of human trafficking. The Moran Index has an expected value of $-1/(N - 1)$, which tends to 0 as N , the sample size increases. The index is defined as:

$$I = \frac{N \sum_{i=1}^N \sum_{j=1}^N w_{ij} (x_i - \bar{x})(x_j - \bar{x})}{\left(\sum_{i=1}^N \sum_{j=1}^N w_{ij} \right) \sum_{i=1}^N (x_i - \bar{x})^2},$$

where N is the number of observations in the data set, \bar{x} is the mean of the Global Slavery Index data, x_i is country i 's Global Slavery Index value, x_j is country j 's Global Slavery Index value, and w_{ij} is the weighting matrix that takes a value of 1 if country i and j are contiguous neighbors and 0 otherwise. To test significance, the Moran Index is converted to a z -score using the formula for its variance, which is rather complex and is outlined in Lee and Wong's study (2001). To test the hypothesis, the Moran Index is estimated for four different global regions such as the Schengen region, Africa, Asia, and North and South America in addition to the external Schengen border, and the results are presented in the following section.

Table 1. Estimated Moran Index Values.

Summary Statistics	Schengen Region	External/Internal Schengen Border	Africa	Asia	North and South America
Moran Index	.3589	.1505	.0087	-.1490	-.00034
z-score	2.7615***	0.8382	0.4832	-1.527	0.4033
p Value	.0058***	.4066	.6290	.1267	.6867

***Significant at 99%.

Results

Table 1 provides the estimated Moran Index values for the five different regions considered in this analysis in addition to the index's corresponding z-score and *p* value. The estimated Moran Index value for the Schengen region is significant and positive, providing evidence of positive spatial autocorrelation, or in this case, that neighboring Schengen–Schengen countries tend to have similar prevalence levels of human trafficking. Further, the estimated values of the Moran Index indicate that these country border relationships are unique to the Schengen region. Specifically, the Moran Index is negative and insignificant for the global regions of Asia and North and South America, positive and insignificant for the external Schengen border, and essentially 0 in Africa. These results suggest that the nature of human trafficking differs in the Schengen region where internal country borders are lifted. In particular, the results indicate that there are different spatial patterns in human trafficking rates within the Schengen region, suggesting that neighboring country clusters with similar levels of human trafficking exist within the Schengen region. Thus, when policy makers are planning antihuman trafficking strategies within the Schengen region, policy makers should consider policies that are regionally focused. In sum, the results presented indicate that the border regime within the Schengen region has led, at least in part, to a different spatial relationship in human trafficking patterns that is unique to the region and antihuman trafficking efforts need to take this into consideration as they develop policy.

Summary

The primary purpose of this study is to empirically test whether country border relations play a significant role in human trafficking with a particular focus in the Schengen region. It is argued that the free flow of persons across country borders in the Schengen region impacts human trafficking in two ways: It lowers the transportation costs and challenges to traffickers and it facilitates the information flow to traffickers. Further, given its proximity to the migratory flow out of Eastern Europe, the Schengen region presents a distinctive set of parameters to study human trafficking patterns. It is hypothesized that contiguous Schengen–Schengen country neighbors will have similar per capita prevalence levels of human trafficking due to the ease of border crossing and that this effect will be exclusive to the Schengen region. The Moran Index is used to empirically test the contiguous country neighbor effect in the Schengen region, Africa, Asia, and North and South America in addition to the external Schengen border. Only in the Schengen region is the Moran Index both significant and positive, indicating that in this region, country neighbors tend to share similar prevalence levels of human trafficking and that relationship is not found in other areas.

Policy Implications

Previous research has offered several strategies for fighting human trafficking. In reference to long-term strategies, Aronowitz (2009) states that policies need to focus on the structural factors that

serve as the impetus for migration and ultimately exploitation and suggests that these policies should focus on eliminating poverty and corruption in addition to educating and providing job and career opportunities for vulnerable populations. From a more immediate, criminal justice perspective, Aronowitz (2009) notes that the efforts need to concentrate on intelligence gathering, the prosecution of traffickers, and dissolving the criminal organizations and networks involved in human trafficking. Further, policies designed to tighten migration and restrict borders are likely to hamper human trafficking by increasing the transportation costs and challenges faced by traffickers.

While these strategies are certainly valid and would likely make significant strides in fighting human trafficking, policy makers should be mindful of the different landscape of human trafficking within the Schengen region. Further, if these policies are not tailored to address the differences within the Schengen region, the results of this study suggest that some of these antihuman trafficking strategies might not be as effective within the region. Specifically, when considering migration, criminal organizations and networks, and intelligence gathering, policy makers need to take into consideration the free flow across Schengen–Schengen country borders. Specifically, with its lack of internal borders, the makeup and design of human trafficking criminal networks are likely to differ in the Schengen region compared to other global regions, and a hypothesis that is supported by the analysis results presented above. In sum, the design of antihuman trafficking policies within the Schengen region should acknowledge the spatial patterns in human trafficking and consider country clusters and/or regions rather than individual countries.

Limitations

As discussed, obtaining human trafficking data is exceptionally challenging due to the hidden nature of the crime and the lack of public knowledge, which hampers both the identification and reporting of the crime. Although the Walk Free Foundation's Global Slavery Index is calculated using a sophisticated method that is subject to extensive review, any measure of human trafficking should be considered an estimate of an unknown, true value. Further, the Global Slavery Index estimates the prevalence of those living in modern slavery and human trafficking victims are a subset of this population. In an effort to overcome some of the data limitations, the Moran Index was estimated using the Walk Free Foundation's data in three different global regions and the external Schengen border. These regions were tested to offer support to the overall finding that the relationship between country neighbors in regard to human trafficking prevalence rates is unique to the Schengen region. Further, the insignificant estimate of Moran Index for the external Schengen border lends additional support, as this estimate uses some of the same data used to estimate the relationship within the Schengen region. Thus, using some of the same data points, the comparison of Schengen countries to their non-Schengen neighbors yielded an insignificant result while the comparison of Schengen countries to their Schengen neighbors yielded a significant result. Nonetheless, any measure of human trafficking data has limitations, and while these robustness checks are offered, given the data challenges, the possibility cannot be ruled out that the analysis results are not an artifact of the data itself. The results presented here need to be interpreted in this context.

Further, the focus of this study is human trafficking involving the transport of persons across international borders; however, as noted above, not all trafficked persons are moved across international borders. As Bales et al. (2009) discuss, victims can be trafficked from poor to wealthier districts within country, and the possible effects or interaction effects of "internal" trafficking, where country borders are not a factor, are not taken into account in this study. The reason for this omission is the lack of data on internal trafficking; however, it should be acknowledged that the effects of internal trafficking might play a significant role in some countries, especially those with high income equality.

Finally, the primary purpose of this study is to explore the effect of country borders on human trafficking, and specifically, the spatial autocorrelation effect in the Schengen region compared to

other global regions. Using this approach, other factors identified as driving human trafficking were not explicitly controlled for, rather the focus is exclusively on the cross-border relationship in human trafficking prevalence rates. In this same vein, it should be noted that while the Schengen region is unique in terms of its internal border regime, there are other parts of the world where country borders are porous. As Shelley (2010) describes, there are many parts of Africa, Latin America, Asia, and the Middle East that can be traversed by traffickers who are knowledgeable of weaknesses in borders, and as Aronowitz (2009) notes, a common language and tribal history can be found on both sides of the Nigeria–Benin border, and this long, rural, and unguarded border has facilitated the trafficking of Beninese children to work in Nigerian rock quarries. Thus, while the legal, internal border structure in the Schengen region is unique, it does not, by far, represent the only global region in which persons can be moved with relative ease across international borders.

Conclusion

Slavery and human trafficking are sadly not historical practices and are not only alive today but are growing at an alarming rate. If forecasts are correct, human trafficking will become the largest form of organized crime in incidence within the next 10 years. In an effort to contribute to the body of human trafficking research, this study offers evidence that there is a unique relationship in the per capita prevalence rates of human trafficking across contiguous Schengen–Schengen countries. This result has implications for antihuman trafficking policy makers; specifically, those agents working within the Schengen region should take into consideration the different geographic makeup that is likely to exist in migration and criminal networks and organizations that are due at least in part to the lack of internal borders within this region.

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Notes

1. The protocol defines exploitation as, “Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs.”
2. It is important to note that the terms human smuggling and human trafficking are often used interchangeably but have distinct differences. Human smuggling requires the transport of a person across international borders, while human trafficking can occur intrastate. Further, persons who wish to be smuggled out of country typically pay the smuggler for the service and once they reach their destination, the transaction is complete and the relationship with the smuggler ends. However, as Bales et al. (2009) discuss, it is possible for smuggling to lead to trafficking as smugglers can entrap victims once they have reached their destination. In short, the critical difference with human smuggling is that once the destination country is reached, smuggled persons are free to leave and look for work opportunities while trafficked persons are not (Bales et al., 2009).

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Author Biographies

Cassandra E. DiRienzo is a professor of Economics at the Love School of Business at Elon University. She holds a ME and a PhD from North Carolina State University. Her research interests are econometrics and statistical forecasting as well as economic and business applications of nonparametric, spatial, and multivariate statistics.

Jayoti Das is a professor of Economics at the Love School of Business at Elon University. She holds a Masters degree and a PhD from University of Cincinnati. Her research interests are international trade and finance, industrial organization, global business and development issues.

The Double-Edged Sword of Gender Equality: A Cross-National Study of Crime Victimization

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Celia C. Lo¹, William Ash-Houchen¹,
and Heather M. Gerling¹

Abstract

Objectives: While the literature confirms the applicability of routine activity/lifestyle theory in studying individual crime victimization, this study asks whether *neighborhood* disorganization as well as—on the level of the *nation*—income inequality, attitudes about gender equality, and the meeting of citizens' basic human needs are associated with opportunity for crime and so might contribute to the explanation of victimization. The study measures demographic variables that could indicate the presence of motivated offenders and likely crime targets, as well as the absence of effective guardians. **Methods:** The data come from the sixth wave of the World Values Survey (collected 2010–2014), from the Social Progress Index Report, and from information compiled by the World Bank. The present sample numbers 64,861 respondents, representing 46 countries. **Results:** The data analysis suggests that risk of victimization increases in the presence of income inequality and gender equality, and decreases where people's basic human needs are met. The relationship between neighborhood disorganization and one employed victimization measure was found to be moderated by attitudes about gender equality. **Conclusions:** Further investigation of the role of opportunity and routine activity/lifestyle factors (macro- and individual-level) could improve understanding of victimization, particularly related to the complex interplay between structural and cultural predictors of victimization.

Keywords

crime victimization, gender equality, income inequality, cross-national study, lifestyle–routine activity theory

Victimization by crime typically ends in loss of property, loss of health, and/or loss of personal dignity—that is, in human suffering. Crime victimization is an important social phenomenon whose occurrence needs to be explained if it is ever to be prevented by social policy and practices. For

¹ Department of Sociology and Social Work, Texas Woman's University, Denton, TX, USA

Corresponding Author:

Celia C. Lo, Department of Sociology and Social Work, Texas Woman's University, Denton, TX 76204, USA.
Email: clo@twu.edu

several decades now, scholars working to explain crime victimization have applied *routine activity theory*. The theory holds that crime victimization can occur when a situation facilitates a criminal act or acts (Cohen & Felson, 1979). The presence of motivated offenders and suitable victims, when it is accompanied by the absence of effectual guardians of intended victims, creates such a potentiality for victimization (Cohen & Felson, 1979). Certain lifestyles and routinely pursued activities (vs. other lifestyles and activities) tend to present circumstances conducive to victimization (Maxfield, 1987). Moreover, certain structural conditions (e.g., poverty, economic inequality) and cultural conditions (e.g., attitudes toward gender equality) may imply the existence of relatively more motivation to commit crime depending on the social context (Adamczyk, 2013; Hindelang, Gottfredson, & Garofalo, 1978). To understand crime victimization then, we must examine both victimization and crime-facilitating situations in their broadest contexts (Meier & Miethe, 1993). The purpose of the present study was to examine roles potentially played by macrolevel structural and cultural factors as well as mesolevel neighborhood disorganization in individual-level crime victimization, and whether and to what extent these macro- and mesolevel factors served as both predictors of victimization for the self as well as victimization of one's family member(s) in the context of lifestyles–routine activities theory (LRAT).

Research has captured numerous victimization-related macrolevel constraints and opportunities characterizing specific structural and cultural conditions by locating factors associated with crime victimization at the (a) neighborhood or community level (Meier & Miethe, 1993; Sampson, 1987), (b) city level (Bailey, 1999; DeWees & Parker, 2003), and (c) national level (Gartner, 1990; Lee, 2000). Such multilevel investigation suggests the importance of broad structural and cultural conditions in contextualizing the victimization risk faced by individuals. It is a sociological approach that perceives crime victimization to be less the consequence of personal choices and more the outcome of economic and social conditions (Meier & Miethe, 1993). Crime victimization occurs disproportionately among individuals of lower socioeconomic status residing in economically deprived areas (Sampson, 1987); however, various contexts enfold crime victimization: the social grouping, the state, and the nation in which offender and victim live. Explaining crime victimization by distinct contextual layers is therefore useful, as economic and other disparities in crime victimization are a social problem worldwide.

Theoretical Foundation and Literature Review

In the 1970s, Cohen and Felson (1979) developed routine activity theory, elaborating how crime commission is facilitated by the routine activities which create three key conditions: a victim materializes, no guardians are present to protect the victim, and an offender is present and motivated to victimize. Since then, routine activity theory has been extended to include differences and disparities in individual lifestyles; as LRAT, it has become (Maxfield, 1987) a better tool of explanation. An important distinction between the original theory and LRAT involves treatment of risk. According to Pratt and Turanovic (2015), lifestyle theory attributes risk to probability, and routine activity theory describes a different mechanism for predicting victimization. Relevant to this mechanism is the understanding that, as stipulated by lifestyle theory, routine activities—those pertaining to work, family, and leisure activities constituting the individual's lifestyle—do not occur in a vacuum. Rather, activities are constrained by structural and cultural conditions (Hindelang et al., 1978).

In much of the research on victimization, demographic factors have been used to measure LRAT (Maxfield, 1987). For example, Bunch, Clay-Warner, and Lei (2015) tested gender, income, and marital status as predictors of individual victimization's relationship to routine activities, finding those three factors to be salient. Research has linked age and socioeconomic status to crime victimization as well (McNeeley & Wilcox, 2015; Sampson & Lauritsen, 1994). A study by Lauritsen

and Carbone-Lopez (2011) suggested marriage protects both spouses against stranger violence, acknowledging that additional variables, specifically related to neighborhood-level resource deprivation, may modify victimization risk.

Victimization indeed does not occur in a social vacuum. Rather, the social networks among interrelated individuals in a neighborhood or community function to structure the mechanism of routine activities. The individuals' interrelationships are not uniform, so among adolescents, for instance, the likelihood and frequency of unstructured, unsupervised time varies (Bernburg & Thorlindsson, 2001). Motivated criminal offenders typically come from among those adolescents with relatively more unstructured, unsupervised hours (Bernburg & Thorlindsson, 2001). Thus, it appears that researchers must strive to situate victimization within appropriate social contexts.

From ecological crime studies came the key finding that economically disadvantaged neighborhoods tend to have more crime. In Sampson and Groves' (1989), study of localities in Great Britain, low economic status, and ethnic heterogeneity were found to foster social disorganization and subsequent growth of crime. Lauritsen (2001) demonstrated that, across the United States, urban, low-income groups tended to commit comparatively more crimes. Pabayo, Molnar, and Kawachi (2014) studied non-Black adolescents in various Boston neighborhoods and observed a link between income inequality and (a) risk of victimization as well as (b) risk of violent offending. Moreover, at least one study found homicide rates to be relatively high in neighborhoods where residents' incomes varied widely, the differential prompting residents to compare others' economic circumstances to their own (Wang & Arnold, 2008).

Socially disorganized neighborhoods often house motivated offenders who themselves have been victimized, due (in part, at least) to the high-risk lifestyles they lead. Vecchio's qualitative research (2013) demonstrated that, following their own victimization, drug dealers and others who regularly pursue illegal activity tend to accept the risks inherent in their lifestyles, although their postvictimization behavioral changes vary, tending to reflect the severity of the victimization they experienced. Research done in the United States by Daday, Broidy, Crandall, and Sklar (2005) on nonlethal cases of battery found that perpetrators and victims typically have relationships that are confined in space; however, each party usually comes from a socially disorganized neighborhood, and each party exhibits a risky lifestyle.

But even those victims whose routine activities/lifestyles expose them to motivated offenders often avoid victimization when in the presence of capable guardians (Tewksbury, Mustaine, & Stengel, 2008). Neighborhood context, however, is an important consideration in the relationship between victimization and social support (e.g., guardians). Traditionally, social support has been viewed as a protective factor; but in fact, its effect on victimization diminishes rapidly for individuals residing in disorganized neighborhoods (Wright, 2012). Disorganized neighborhoods are not confined to city centers; historically, rural areas, according to some research, can also be disorganized despite a tendency to have lower rates of victimization, particularly for males and African Americans, even though the rural areas also tended to lack capable guardians as a result of increased social isolation and space between neighbors (Spano & Nagy, 2005).

Kubrin, Stucky, and Krohn (2009) specified some characteristics of socially organized neighborhoods, holding that their absence indicated neighborhood social *disorganization*. A community exhibiting social solidarity, cohesion, and relatively extensive social integration is, they determined, socially organized. Often in the literature of neighborhood organization, the quality is termed *collective efficacy* (Sampson, Raudenbush, & Earls, 1997). Collective efficacy is the ability of a community to combat crime with no need of formal social control by the state (Browning, 2002). The level of collective efficacy in a neighborhood reciprocally influences its level of informal social control; each is necessary for achieving the (actual or perceived) goal of cutting crime in the community. Cross-national research has also observed that community cohesion tends to reduce rates of individual victimization (Lee, 2000).

If structural and cultural conditions delimit opportunities both for pursuing given routine activities/lifestyles and for being criminally victimized, then a nation's degree of social inequality potentially shapes the victimization risk characterizing its citizens. One explanation of the decision to commit crime is that offenders are responding to economic inequality within the society. According to strain theory (Merton, 1938), crime results when societal goals are out of sync with the availability of means to obtain them: Material deprivation provokes theft—a response to a lack of prosperity—or perhaps provokes violence—a response to resentment of unequal resource distribution (Merton, 1938). Support for strain theory was reported in the oft-cited research of Blau and Blau (1982), who examined data from the United States' 125 largest metropolitan areas and found that inter- and intraracial economic inequality considerably increased criminal violence (Blau & Blau, 1982). National studies by Avison and Loring (1986); Braithwaite and Braithwaite (1980); Gartner (1990); Krahn, Hartnagel, and Gartrell (1986); and Neapolitan (1998) strengthened the association between strain of the kind described by Merton and violent crime. Each of these studies found that income inequality predicted an area's homicide rate. As well, a cross-national study by Van Wilsem, De Graaf, and Wittebrood (2003) distinguished individual-, neighborhood-, and nation-level data and found income inequality to be associated positively with high rates of theft and violent crime. Unequal distribution of income and other resources, then, generates motivated offenders within a routine activities framework. At the same time, lower levels of gender equality may also increase (or decrease) opportunity for crime victimization through more than exclusively structural vectors.

Kubrin et al. (2009) cites a problem with routine-activities perspectives in that these perspectives remain better suited at predicting property or instrumental crime versus violent or expressive crime. Measuring cultural predictors of gender equality *alongside* structural predictors may provide a more complete answer than either component alone, particularly given Adamczyk (2013)'s findings from an earlier wave of the World Value Survey that indicated individual religious beliefs are associated with attitudes toward cultural issues like abortion, divorce, and gender equality and further found that these attitudes are contextualized through broad cultural indicators like a survival or self-expressive cultural orientation. Generally, the more religiously oriented the individuals residing in a nation, the less egalitarian or gender equal are attitudes held by those individuals (Schnabel, 2016). Indeed, these findings suggest that cultural components of victimization can measure alongside structural predictors to improve models predicting victimization. Cultural measures of gender equality have additionally been deployed to analyze differences in gender equality within the home in terms of whether national culture allows for divorce—places where divorce is common are more parity between men and women in intimate partner relationships (Yodanis, 2004).

Traditionally, males' dominant roles have been upheld by embedding the inferior status of women into societies' economic, political, legal, and social structures (Inglehart & Norris, 2003). Particularly in the late 20th century, the significant evolution of women's status and societal roles has taken place in many nations, following cultural changes in attitudes about gender equality. A hypothesis from liberal feminist theory, however, holds that men are long used to dominance, seek to preserve it, and use violence as a means to control women and sustain patriarchal structure (Martin, Vieraitis, & Britto, 2006; Yodanis, 2004). Violence against women facilitates women's subjugation by men via their ongoing dependence on men for physical protection and economic well-being; moreover, violence deters women from demanding equitability in the social arrangement (Whaley & Messner, 2002; Whaley, Messner, & Veysey, 2013; Wrangham & Peterson, 1996).

Two theories predominate in the literature explaining and predicting how lower levels of gender equality and women's victimization are related. First, the ameliorative hypothesis argues that as a society achieves more gender equality, violence against women will lessen (Ellis & Beattie, 1983; Whaley & Messner, 2002). This hypothesis gains traction from the literature reporting observed evidence of the association between low levels of gender equality with both rape and other abuse (Baron & Straus, 1987; Straus, 1987) as well as from that reporting *income* inequality's positive

relationship to rates of victimization of women (Peterson & Bailey, 1992). It has, however, been suggested in the literature that with time, men will grow increasingly accepting of women's more equal status, society will adjust to a more egalitarian structure, and violence against women will lessen (Brownmiller, 2013; Russell, 1975). Second (and contradicting the ameliorative hypothesis), is the backlash hypothesis (Russell, 1975). It contends that as women gain social equality and independence, men perceive their own status and power to be threatened (Whaley, 2001), leading to more violence against women. A substantial literature supports the backlash hypothesis, specifically its application to gender equality and to rates of rape perpetrated against women (Austin & Kim, 2000). In addition, substantial research links *income* inequality between men and women to increased rates of the murder of women (DeWees & Parker, 2003; Vieraitis & Williams, 2002; Whaley & Messner, 2002).

Bailey (1999) has advanced yet a third perspective that incorporates portions of both the ameliorative and backlash hypotheses. This third position holds that women's socioeconomic status predicts their vulnerability to criminal victimization, suggesting that the achievement of economic parity between women and men—specifically the accompanying growth in the economic resources women can access—can lead to backlash early on, while tending to protect women from violence as time progresses. Bailey's (1999) study cast some doubt on the backlash hypothesis; his findings showed that decreasing gender income inequality was associated with decreasing numbers of rapes, a result tending to support the ameliorative hypothesis.

Importantly, some longitudinal research testing the ameliorative and backlash hypotheses together has proven fruitful, finding that increases in relative gender equality or parity in terms of education, income, and employment between women and men were associated with decreased rates of female-specific homicides and homicides where the relationship between victim and offender was one of friendship over time, while women's absolute status was a less robust predictor and predictive of homicide only for intimate partners (Vieraitis, Britto, & Morris, 2015). Whaley, Messner, and Veysey (2013) echo (Bailey, 1999) and argue the ameliorative and backlash hypotheses need not be treated as a false dichotomy, and that both processes can work within the same society to structure violence against women. Rather than using a temporal lens, these authors measure across different levels of gender equality or parity, suggesting a statistical relationship with violent victimization that is curvilinear versus entirely linear. Lower levels of gender equality indicate lower absolute status of women, and accompanying this, a relatively low need for social control of women within the society or neighborhood; intermediate or higher levels of gender equality indicate more favorable absolute status of women, and this can lead to the backlash processes as men come to perceive women as threats to their employment or powerful social positions (Whaley et al., 2013).

Discussions of macrolevel structural and cultural changes influencing rates of victimization toward women should be further specified to include effects as being intricately related to the relationship shared by the victim and offender, although measuring these relationships can be problematic in cross-national research projects. A review of the literature conducted by Xie, Heimer, and Lauritsen (2012) identified two avenues of research on gender equality and crime victimization that have resulted in response to these conflicting outcomes. The first is a movement, of sorts, calling for victim-offender relationships to be analyzed so that cases in which an offender is known to a victim can be distinguished from cases of stranger-perpetrated violence, therefore allowing the differential impacts of a range of relationships to be assessed (Bailey & Peterson, 1995). This proves prescient given that far more female homicide victims are killed by an intimate partner while male homicide victims are more likely to be killed by an acquaintance (Fox & Allen, 2014). Vieraitis, Kovandzic, and Britto (2008) concur with their earlier work that is further bolstered by a later longitudinal study (Vieraitis et al., 2015).

The second comprises examinations of how criminal victimization changes as levels of gender equality change: *not*, that is, in terms of absolute levels of inequality. Xie et al. (2012) studied both

absolute and relative statuses of women, and they looked at the relationship between offender and victim. They found support for the ameliorative *and* the backlash hypothesis, with results differing as the victim–offender relationship changed. In terms of women’s absolute status, Xie et al. supported a backlash perspective. In addition, they found routine activity theory to explain “nonintimate” violence and women’s labor-force participation. Vieraitis, Britto, and Morris (2015)’s findings from a longitudinal study in the United States found similar results; increases in absolute status have eventually generated lower rates of female homicide victimization, but again these statistical relationships are highly related to the relationship shared between victim and offender. For example, reductions in risk were found for intimate partners and friend relationships, while not achieving significance for strangers or family members (Vieraitis et al., 2015). Earlier cross-sectional research found a similar relationship between absolute status of women and homicide victimization by intimate partners, although additional testing indicated some difference (between intimate and nonintimate perpetrators) could be due to chance (Vieraitis, Kovandzic, & Britto, 2008). Our research study partially answers two opportunities for future research, offered by Whaley et al. (2013)’s research, by including additional individual measures and controls, as well as an intervening mesolevel (neighborhood) contextual level alongside our macrolevel structural predictors of victimization. Relatedly, we added a macrolevel measure of attitudes about gender equality which we utilize as a proxy for patriarchal culture along with the structural predictors modeled in our study. Given Adamczyk (2013)’s findings that attitudes about social issues and values are influenced by broad cultural contexts, at least in the case of religiosity, we expect our cultural measure to unearth similar statistical relationships.

Importantly, the published empirical research supporting these two hypotheses (ameliorative and backlash) is accompanied in the literature by studies that obtained little to no support for them (Brewer & Smith, 1995; Ellis & Beattie, 1983). For example, Macmillan and Gartner (1999) found a woman’s risk of experiencing spousal abuse depended not only on her employment status but upon her partner’s as well. DeWees and Parker (2003) determined that victimization rates for women varied by *type* of gender inequality. Vieraitis and Williams (2002) concluded that their data only partially supported feminist arguments: While they observed women’s status to affect the rate of women’s victimization, they also found the degree of victimization risk to vary by race. Most recently, Chon (2016) analyzed cross-national data and determined that any relationship between gender equality, indicated by structural predictors of education attainment or relative status, in fact has a *spurious* relationship with female homicide victimization and that major predictors instead lie in factors like ethnic heterogeneity and income inequality.

The Present Study

From an LRAT perspective, contextual factors like social inequality and resource deprivation help create criminal opportunity through which individuals and families are targeted. Inequality and deprivation increase the number of motivated offenders and decrease the number of capable guardians available to act as a barrier between offenders and intended victims. The present study employed both social disorganization theory (Shaw & McKay, 1969)—holding that poverty and weak social ties allow some members of communities to engage freely in criminal activity targeting their neighborhoods—and strain and feminist theories—holding that national-level social inequality is associated with criminal victimization. Founded on these theories, the study aimed to contextualize individuals’ routines and lifestyles within social inequality and resource deprivation. The neighborhood/community context provided a compositional, mesolevel link between national-level social inequality and resource deprivation factors and individual-level victimization (Smith, Frazee, & Davison, 2000). The study was informed by the promising work of Tillyer who has drawn upon social disorganization theory to outline a multilevel opportunity approach analyzing criminal

victimization via macro- and microlevel variables. Tillyer (2015) determined that perpetrators make decisions about whether to commit crime, often weighing structural constraints. The research also observed that patterns of such decision-making predicted, to an extent, the distribution of crimes across physical and social space.

The present study offers an international context. The literature shows the central tenets of routine activity theory (especially capable guardianship) to hold true in several Western nation states (e.g., the United States, United Kingdom, and Iceland; Bjarnason, Sigurdardottir, & Thorlindsson, 1999; Estrada & Nilsson, 2008). Resource deprivation and social disorganization are also components of van Wilsem's (2004) cross-national comparison of crime victimization in 27 European countries. That study found income inequality to be an important and consistent predictor of rates of vehicle vandalism, theft, nonlethal violence, and homicide. Curiously, however, van Wilsem obtained no support for one central tenet of routine activity theory: differences in suitable target congruence for theft (2004). With a sample of Western nations, Tseloni, Wittebrood, Farrell, and Pease (2004) analyzed crime data and determined the salience of age, single-parent household status, location (urban or rural), and use of household security systems to the likelihood of victimization. However, the degree of salience of each factor differed from one nation to another; specifically, U.S. households' patterns differed significantly from those of other nations in terms of target attractiveness and spatial location (Tseloni, Wittebrood, Farrell, & Pease, 2004). Affluent households in the United States may be physically separated from their neighbors in a way that is not common in Europe; affluent families in the United States can afford to own larger parcels of land or reside in gated communities with gates functioning as a sort of guardian decreasing probability of crime while low-income households in the United States tend to cluster into disorganized neighborhoods. This clustering of disadvantage in U.S. neighborhoods could also be influential for perpetrators selecting homes for burglary since the motivated offender need not look far to find homes without adequate preventative security measures or homes that are routinely unoccupied (Tseloni et al., 2004). Cross-national study of criminal victimization is not new. Sener, Mark, David, and Abbey (2009) have explored whether variables at the level of the nation—specifically, the level of democratic practice, economic modernization, and income inequality—are applicable in comparisons of countries' crime data. Their findings support the idea that income inequality significantly influences rates of individual victimization, even though more variation was explained by individual-level factors than national-level ones in their study (Sener, Mark, David, & Abbey, 2009).

Western nations are certainly not the only ones in which researchers can apply routine activity perspective. Kuo, Cuvelier, Sheu, and Zhao (2012) tested the theory with data collected in Taiwan. They noted that not all indicators that have proven useful in studying Western victimization data can be "imported" in a straightforward fashion. The role of domicile in the city center, for instance, must be examined under a different sociocultural framework. Taiwan's city centers, unlike U.S. urban neighborhoods, exhibit social organization; indeed, they are centers of culture with housing that is expensive if it is present at all, since in Taiwan, unlike in the United States, a city center tends not to include properties zoned for residences (Kuo, Cuvelier, Sheu, & Zhao, 2012). Kuo et al. also noted that Taiwan's culture is more communalistic than American culture. Their study (Kuo et al., 2012) cites communalism as one factor perhaps involved in the robust informal social control apparent in Taiwanese neighborhoods. Taiwan's citizens may be more willing than U.S. citizens are to intervene during the commission of a crime or come to the aid of another citizen who lacks capable guardianship, a difference that cannot be attributed solely to individual differences.

Among other interesting and pertinent findings from research in Taiwan, earlier work by Kuo and colleagues showed Taiwanese women to be significantly more likely to be robbed than Taiwanese men are (Kuo, Cuvelier, & Chang, 2009). In the past, perhaps the tables would have been turned. Women's greater vulnerability to robbery may be related to their increasing presence in the workforce and the accompanying increasing opportunity to appear as suitable targets for crime. The

earlier Kuo, Cuvelier, and Chang study (2009) found as well that larceny was more likely to affect married or affluent victims than single or low-income victims. The pattern in the United States is observed to be reversed. Relevant research has also been conducted in China as well as Taiwan. Messner, Lu, Zhang, and Liu (2007) studied criminal victimization in China, confirming the general applicability of LRAT perspectives there. Their research did find, however, nation-level differences in victimization patterns that were best explained through a sociocultural lens. The findings indicated the need to consider context when applying LRAT cross nationally. Some cross-national research has not observed the neighborhood level to provide useful victimization predictors, especially in studying intimate partner violence (Nilsson & Estrada, 2007). There is nevertheless consensus in the literature that neighborhoods must interact, in some manner, with other structural variables to move victimization probability in one direction or another.

The present study, which considered two contextual layers, asked whether and how individual-level crime victimization is explained by perceived neighborhood disorganization and, on a national level, by a country's meeting of its citizens' basic human needs, its degree of income inequality, and its overall attitude toward gender equality. The study also explored whether and how neighborhood and national factors—reflecting structural and cultural conditions—may interact to affect the risk of crime victimization. The neighborhood- and national-level factors measured by the present study outlined opportunities for and constraints on crime and were hypothesized to lead to individual-level crime victimization (when individual-level lifestyle and routine-activities factors were controlled).

This study should prove significant in two ways. First, it investigated simultaneously two contextual layers (neighborhood and nation) already shown by research to separately affect, crime victimization at the individual level (Gartner, 1990; Sampson, 1987). Structural and cultural conditions help generate crime opportunities, contextualizing victimization at the individual level. Nonetheless, overall, previous studies focused on one *single* contextual layer, whether the community, city, county, or nation. Using multiple contextual layers can increase the explanatory power of statistical models predicting victimization through the inclusion and examination of items measuring intervening mechanisms between macrolevel social structure or culture and individual experiences of victimization which have been relatively scarce in the published literature thus far (Whaley et al., 2013). Second, the study intended to evaluate several national factors' roles in the relationship between neighborhood disorganization and individual-level crime victimization. Different contexts provide different opportunities for, and constraints on crime, and attending to neighborhood and national contexts (contextual factors) may shed light on any neighborhood disorganization–crime victimization relationship and how it may vary by nation. Our neighborhood-level contextual layer attempts to tease out the intervening mechanisms that operate in the meso- or middle-range (proximate structure).

Method

We turned to multiple sources (all readily available for download) to obtain information quantifying our study's individual-, neighborhood-, and nation-level variables. Most data came from the sixth wave of the World Values Survey or WVS-W6. Working in annually varying numbers of countries, the World Values Survey has, since 1981, collected data on democratization, religion, economic development, and gender equality. Wave 6 dates 2010–2014 and involved 82,674 respondents from 60 countries (World Values Survey Wave 6, 2010–2014). The survey has employed nationally representative samples. While a common questionnaire was suggested, specific questions relevant to the present study were not included in questionnaires used in certain countries, thus causing exclusion of their individual cases.

We also relied on nation-level data, some appearing in the 2014 and 2015, Social Progress Index (SPI) and some provided by the World Bank. SPI aims to comprehensively measure the social and

environmental performance of each country in the world, without resorting to the use of economic proxies. The project was initiated by a group of scientists from multiple countries, supported by organizations including the United Nations, Global Citizens, and the Social Progress Imperative. The group sought to identify exclusively social and environmental indicators that are of a holistic nature and, moreover, relevant to the measuring of health and wellness in ways meaningful to the people of each country. SPI organizers intended the research to identify social problems so that solutions could be implemented.

We excluded from our analyses surveys and reports with missing data, including those reporting that particular data had been unavailable from particular countries. World Bank did not provide GINI index data for some territories including Taiwan, Hong Kong, and Palestine and other countries such as Singapore and Argentina, therefore all individual cases within these countries were subsequently excluded. After making the exclusions, we obtained a final sample comprising 64,861 adult respondents (18 years and older) from 46 countries.

Measures

Individual-level variables. We used two dichotomously measured outcome variables to gauge criminal victimization of the respondent (*self-victimization*) and of a family member of the respondent (*family victimization*); a score of 1 indicated being a victim in the year preceding survey administration, of 0, not being victimized in that period. The item measuring self-victimization queried whether respondents themselves have been the victim of a crime during the past year (response categories = yes, no, don't know), and the separate but related item measuring family victimization asked respondents whether someone in their family has been the victim of the crime during the last year (response categories = yes, no, or don't know). These measures of victimization are inexact, but standard across all respondents in all nations participating in the WVS, meaning that respondents in all sampled countries were asked the same items. These measures preclude a more detailed study of specific criminal outcomes, such as intimate partner homicide, or property versus violent crime. Our study also involved demographic and socioeconomic variables, quantifying, at the individual level, routine activities and lifestyle. Those measured dichotomously were male gender (1), partner (living with a partner or spouse; 1), and employed (1). (Scores of 0 indicated female gender, not living with partner/spouse, and not being employed). Poverty level was measured with a 4-item index that asked how often, in the 12 months preceding survey administration, a respondent (or his or her family) had lacked sufficient food, had felt unsafe from criminals while at home, had gone without needed medication or medical treatment, and had gone without cash income. Offered responses (reverse coded) ranged from 1 (*never*) to 4 (*often*). Testing of this 4-item index showed it to demonstrate moderate reliability ($\alpha = .79$). Finally, our study measured age, a continuous variable ranging from 18 to 99, and education level, a continuous variable ranging from 1 (*no formal education*) to 9 (*university-level education, with degree*).

We measured disorganization within one's neighborhood of residence at the individual level, even though our study used disorganization as a contextual, neighborhood-level indicator also. Using a 6-item index demonstrating moderately high internal consistency ($\alpha = .81$), we measured respondent perception of the neighborhood of residence, a continuous variable. Respondents were asked how secure they felt in their neighborhoods, from 1 (*very secure*) to 4 (*not at all secure*). Respondents were asked how often they observed robberies, alcohol consumption in the street, police or military interference in people's private lives, racist behavior, and drug trafficking in the street. Responses offered (in reverse code) ranged from 1 (*not at all frequently*) to 4 (*very frequently*).

Nation-level variables. We used three nation-level variables based on three different data sources. The first concerned perception of gender equality, our cultural measure proxying some elements of

patriarchal culture. Respondents completing WVS-W6 were asked how strongly they agreed with five statements touching on gender equality, offered responses ranged from 1 (*strongly disagree*) to 4 (*strongly agree*), and were reverse recoded. The statements were whether children suffer when a mother works for pay, whether men make better political leaders than women do, whether a university education is more important for boys than for girls, whether men make better business executives than women do, and whether being housewife is just as fulfilling as working for pay. A sixth statement was posed with three accompanying offered responses, ranging from 1 (*disagree*) to 3 (*agree*). The statement read when jobs are scarce, men have more right to them than women do. From the six statements, we created a gender equality index (at the individual level). It demonstrated moderate reliability ($\alpha = .73$). Later, each country involved in the study was assigned the mean score derived from its citizens' results on the individual-level gender equality index. In this way, we were able to aggregate an individual-level index to the nation level. Means of the gender equality index at the nation-level ranged from 11.15 (Egypt) to 17.65 (Sweden). Our measure of gender equality for this study are based on perceptions of individual respondents rather than objective structural measures as our other two nation-level predictors described subsequently. Perceptions powerfully shape social actor's actions, and some research suggests that value systems that are gender egalitarian are in fact related to the structured conditions of individual lives (Teigen & Wängnerud, 2009). Indeed, additional cross-national research has determined that gendered differences in ratings of individual happiness are statistically related to attitudes about gender equality within a country, although much of the statistical power of these cultural measures is subsumed once structural predictors like women's education and income were controlled (Tesch-Römer, Motel-Klingebiel, & Tomasik, 2008). Taken together, previous literature is highly suggestive that *both* structural and cultural conditions should be included as second-level predictors of victimization, an approach we follow in this study.

The second was the structural nation-level variable meeting of citizens' basic human needs. This variable was quantified by averaging scores from the 2014 and 2015 SPIs, which included responses concerning the provision of food, basic medical care, water and sanitation, shelter, and personal safety in the respondents' countries. The average scores ranged from 1 to 100, reflecting various countries' progress. While the employed SPI measures dated from 2014 to 2015, we believe that nation-level data of the kind SPI generated are fairly constant. Although our measures of crime victimization dated from slightly earlier (2010–2014), we maintain that the SPI data we used did effectually represent the earlier time.

The third was the World Bank's GINI index of continuously measured nation-level variables, a second structural predictor. The GINI index measures deviation from a perfectly equal distribution of income among individuals or households within an economy. GINI index scores range from 0, indicating perfect equality, to 100, indicating perfect inequality. The World Bank does not rate every nation every year in GINI terms. Most countries we wanted to include in our study, however, had been given a GINI index score for 2010, 2011, and/or 2012. If any country was assigned only one score over that 3-year period, we incorporated that score into our analyses. For countries assigned more than one score during those years, we incorporated the average of the scores. As much as possible, we wanted to avoid excluding countries from analyses due to missing data; therefore, as was the case in several countries, when 2010–2012 GINI scores were unavailable, we substituted data generated slightly earlier. For example, the 1992 GINI scores were used for Trinidad and Tobago as well as for Algeria; the 2003 score for South Africa; the 2005 scores for Azerbaijan and Ghana; the 2007 scores for Morocco and Yemen; the 2008 scores for Japan and Egypt; and the 2009 scores for India, Malaysia, and Nigeria.

Data Analysis Strategy

Our strategy for data analysis began with the production of descriptive statistics describing all included variables (individual, neighborhood, national). Next, we developed a two-step model of

self-victimization and of family victimization, including factors measured at the level of the nation as well as at the individual level. For the model's first step—Model 1—the three nation-level variables (gender equality, basic needs, GINI index), the neighborhood-level variable (disorganization), and all six individual-level variables (poverty level, employed status, age, male gender, education level, partner) were included. The model's second step—Model 2—comprised Model 1 along with additional interaction terms between each nation-level variable and neighborhood disorganization. Due to the dichotomous measuring of our outcomes, we analyzed the data using hierarchical nonlinear modeling techniques within HLM7 software.

Results

Attempting to explain respondents' and their families' risk of crime victimization, this study weighed opportunity and lifestyle factors relevant to individuals and also to their surrounding contexts, such as the neighborhoods and nations in which they live. Table 1 presents descriptive statistics and correlations among all included variables measured at the individual level; Table 2 does the same for those measured at nation level. Of our entire sample representing 46 countries, 11% reported self-victimization and 8% reported family victimization in the year preceding survey administration. Table 3 presents a listing of each of the 46 countries analyzed within our study as well as their aggregated mean on our index of gender equality attitudes. As expected, crime victimization of either type was likelier to be reported by respondents who were younger, employed, poor, and living in disorganized neighborhoods. Males were more likely than females to report being crime victims. Respondents living with a partner or spouse were less likely to report they or a family member(s) had been victims of crime. Concerning our nation-level factors, a relatively strong positive correlation was found between the basic-needs and gender-equality variables. Additionally, in countries in which the respondents said were meeting citizens' basic needs, income inequality was relatively minor.

We applied routine activities/opportunity theory and considered nation-, neighborhood- and individual-level factors simultaneously in a hierarchical nonlinear model explaining crime victimization. We used HLM7 to create Table 4 and Table 5, illustrating likelihood of victimization experienced by oneself or by a family member, respectively. Our results from Model 1 included main effect results for factors measured at all levels; those from Model 2 reflected the introduction of the interaction terms between the three nation-level factors and neighborhood disorganization. As Table 4 shows, respondents were more likely to report experiencing crime if they were younger, male, better educated, employed, poor, and living in a relatively disorganized neighborhood. At the level of the nation, respondents' own crime victimization was more likely when basic human needs were not met, when income inequality was considerable, and when attitudes toward gender equality were relatively positive. Adding the three nation-level factors significantly improved (by 48%) prediction of respondents' own victimization. In Model 2, with the interaction terms weighed, gender equality alone was found to moderate significantly the link between neighborhood disorganization and respondents' own victimization. The gender-equality variable was found to explain 24% of the relationship between neighborhood disorganization and respondents' own victimization.

Table 5 presents our results for reported crime victimization of family members. In Model 1, such victimization was more likely to be reported by respondents who were younger, female, better educated, employed, poor, and living in disorganized neighborhoods. All of the nation-level factors were found to be related to family member's crime victimization. Respondents from nations that were reportedly meeting citizens' basic human needs were relatively unlikely to report family members' crime victimization. Such reports were more likely, however, in nations with relatively pronounced income inequality and a generally positive view of gender equality. Adding the nation-level factors improved, by 44%, the explained variance in crime victimization experienced by family

Table 1. Mean, Standard Deviations, and Correlations of All Included Individual-Level Variables.

Variables (Range of Values)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	M	SD
(1) Male gender (0–1)	1								0.472	0.499
(2) Age (18–99)	–0.018**	1							42.507	16.726
(3) Education level (1–9)	0.042**	–0.156**	1						5.634	2.390
(4) Employed (0–1)	0.210**	–0.156**	0.145**	1					0.540	0.498
(5) Poverty level (4–16)	–0.022**	–0.087**	–0.154**	–0.066**	1				6.740	2.870
(6) Partner (0–1)	0.025**	0.189**	–0.075**	0.108**	–0.028**	1			0.630	0.483
(7) Neighborhood disorganization (5–20)	0.019**	–0.128**	–0.032**	0.002	0.312**	–0.075**	1		8.476	3.054
(8) Victimization of family (0–1)	0.003	–0.066**	0.005	0.017**	0.150**	–0.022**	0.241**	1	0.111	0.314
(9) Victimization of self (0–1)	0.033**	–0.057**	–0.001	0.025**	0.147**	–0.026**	0.218**	0.376**	0.081	0.274

Note. N = 64,861.

*p < .05. **p < .01.

Table 2. Mean, Standard Deviations, and Correlations of All Included Country-Level Variables.

Variables (Range of Values)	(1)	(2)	Mean	SD
(1) Gender Equality (11.15–17.65)	1		14.321	1.760
(2) GINI Index (16.6–63.4)	0.188	1	37.357	9.255
(3) Meeting of Basic Human Needs (39.1–95.1)	0.548**	−0.314*	76.632	13.083

Note. $N = 46$.

* $p < .05$. ** $p < .01$.

Table 3. Mean of Gender Equality Within Countries Included in the Final Data Analysis.

Country	Gender Equality Mean	Country	Gender Equality Mean
Algeria	12.47	Netherlands	16.86
Azerbaijan	12.55	Nigeria	12.81
Australia	17.28	Pakistan	12.39
Armenia	14.09	Peru	16.39
Brazil	16.15	Philippines	13.22
Belarus	14.34	Poland	15.37
Chile	16.54	Romania	15.80
China	14.61	Russian Federation	14.14
Colombia	16.43	Rwanda	14.85
Cyprus	16.24	Slovenia	16.91
Ecuador	15.72	South Africa	14.66
Estonia	15.53	Spain	16.85
Georgia	14.35	Sweden	17.65
Germany	16.67	Thailand	14.70
Ghana	14.16	Trinidad and Tobago	16.21
India	12.55	Tunisia	12.20
Iraq	12.52	Turkey	13.10
Japan	14.65	Ukraine	14.33
Kazakhstan	13.76	Egypt	11.15
Kyrgyzstan	13.55	United States of America	17.06
Malaysia	14.04	Uruguay	16.41
Mexico	16.20	Uzbekistan	12.18
Morocco	13.53	Yemen	11.43

members. After introducing the interaction terms between nation-level factors and neighborhood disorganization into Model 2, we observed no significant interactions.

Discussion

LRAT, advanced by Cohen and Felson (1979) and Hindelang and colleagues (Hindelang et al., 1978), states that three components must be present in order for crime to occur: Someone inclined to commit a crime, a suitable target, and an absent guardian. The present study used two outcomes, individual-level crime victimization experienced by self and victimization experienced by a family member. The study examined routine activities and lifestyles as well as opportunity factors relevant to victimization. Because structural and cultural conditions are likely to contextualize individuals' routine activities and lifestyles as well as any crime victimization they experience, this study also assessed (a) risk of victimization from one neighborhood to another, weighing their particular levels

Table 4. Estimated Effects of Nation-Level, Neighborhood-Level, and Individual-Level Factors on the Likelihood of Crime Victimization Experienced by Self (46 Countries and 64,861 Respondents).

Fixed Effect	Model 1			Model 2		
	Coeff.	OR	95% CI	Coeff.	OR	95% CI
Likelihood of Crime Victimization, β_0						
Intercept, γ_{00}	-2.889**	0.056	[0.046, 0.068]	-2.896**	0.055	[0.045, 0.067]
Meeting of basic needs, γ_{01}	-0.033**	0.968	[0.947, 0.989]	-0.038**	0.963	[0.942, 0.984]
GINI, γ_{02}	0.025**	1.026	[1.007, 1.045]	0.028**	1.028	[1.008, 1.049]
Gender equality, γ_{03}	0.279**	0.759	[0.661, 0.872]	0.331**	1.393	[1.196, 1.622]
Neighborhood disorganization, β_1						
Intercept, γ_{10}	0.154**	1.166	[1.147, 1.186]	0.159**	1.173	[1.153, 1.193]
Meeting basic needs, γ_{11}				0.001	1.001	[0.999, 1.003]
GINI, γ_{12}				0.000	1.000	[0.998, 1.001]
Gender equality, γ_{13}				-0.014*	0.987	[0.974, 0.999]
Partner, β_2						
Intercept, γ_{20}	-0.073	0.930	[0.851, 1.016]	-0.073	0.930	[0.851, 1.016]
Poverty level, β_3						
Intercept, γ_{30}	0.121**	1.129	[1.108, 1.150]	0.119**	1.127	[1.106, 1.148]
Employed, β_4						
Intercept, γ_{40}	0.130**	1.140	[1.042, 1.246]	0.139**	1.149	[1.050, 1.259]
Education level, β_5						
Intercept, γ_{50}	0.060**	1.062	[1.039, 1.084]	0.062**	1.064	[1.042, 1.087]
Male, β_6						
Intercept γ_{60}	0.134**	1.144	[1.046, 1.250]	0.135**	1.145	[1.047, 1.251]
Age β_7						
Intercept, γ_{70}	-0.004**	0.996	[0.993, 1.000]	-0.003*	0.997	[0.993, 1.000]
Variance explained (R2)	47.70%			46.84%		

Note. OR = odds ratio; CI = confidence interval.

* $p < .05$. ** $p < .01$.

of disorganization, and from one country to another, weighing particular levels of social inequality, and (b) the moderation of social disorganization–victimization relationship by some indicators of national-level social inequality (Chon, 2016; Vieraitis et al., 2015). In general, for both outcomes employed, results supported the individual-level LRAT. Additionally, this cross-national study found that the included contextual factors were relevant to the risk of crime victimization. Our findings also observed gender equality measured at the national level to moderate the relationship between neighborhood disorganization and victimization experienced by one’s self.

Even after the introduction of routine activity theory, with its view of crime victimization as stemming from lifestyles and situations fostering crime, rarely is victimization analyzed in its contexts of social inequality and poverty at the national level. This is so despite researchers’ findings that victimization is relatively likely to be experienced by those having fewer economic and social resources (Lauritsen, 2001). Lifestyles and routine activities develop amid the reality of differential access to economic and social resources (Cockerham, 2005). It is therefore meaningful, as we explain crime victimization, to take into account individual- and contextual-level social inequality factors. Multilevel investigation further implies that in order to prevent crime victimization, adopting policy and practices focused solely on individual-level lifestyle factors is not advisable. Three important interpretations of our results especially merit mention.

First, national-level social inequality and resource deprivation played significant roles in explaining the two individual-level outcomes, that is, victimization experienced by self and victimization experienced by family. The two nation-level structural factors (meeting of citizens’ basic human

Table 5. Estimated Effects of Nation-Level, Neighborhood-Level, and Individual-Level Factors on the Likelihood of Crime Victimization Experienced by Family (46 Countries and 64,861 Respondents).

Fixed Effect	Model 1			Model 2		
	Coeff.	OR	95% CI	Coeff.	OR	95% CI
Likelihood of Crime Victimization, β_0						
Intercept, γ_{00}	-2.566**	0.077	[0.062, 0.095]	-2.571**	0.076	[0.061, 0.095]
Meeting of basic needs, γ_{01}	-0.021*	0.98	[0.959, 1.001]	-0.023*	0.977	[0.957, 0.998]
GINI, γ_{02}	0.0467**	1.048	[1.025, 1.071]	0.050**	1.051	[1.029, 1.074]
Gender equality, γ_{03}	0.2557**	1.291	[1.127, 1.479]	0.278**	1.320	[1.149, 1.516]
Neighborhood disorganization, β_1						
Intercept, γ_{10}	0.1446**	1.156	[1.136, 1.175]	0.149**	1.161	[1.140, 1.182]
Meeting of basic needs, γ_{11}				0.001	1.001	[0.999, 1.003]
GINI, γ_{12}				-0.001	0.999	[0.997, 1.000]
Gender equality, γ_{13}				-0.009	0.991	[0.978, 1.004]
Partner, β_2						
Intercept, γ_{20}	0.065	1.067	[0.992, 1.148]	0.065	1.068	[0.992, 1.149]
Poverty level, β_3						
Intercept, γ_{30}	0.1118**	1.118	[1.100, 1.137]	0.112**	1.119	[1.100, 1.138]
Employed, β_4						
Intercept, γ_{40}	0.0875**	1.091	[1.027, 1.160]	0.088**	1.092	[1.028, 1.160]
Education level, β_5						
Intercept, γ_{50}	0.0673**	1.07	[1.043, 1.097]	0.068**	1.070	[1.044, 1.097]
Male, β_6						
Intercept, γ_{60}	-0.109**	0.897	[0.840, 0.958]	-0.106**	0.899	[0.842, 0.960]
Age, β_7						
Intercept, γ_{70}	-0.005**	0.995	[0.992, 0.997]	-0.005**	0.995	[0.992, 0.998]
Variance explained (R ²)	43.79%			43.31%		

Note. OR = odds ratio; CI = confidence interval.

* $p < .05$. ** $p < .01$.

needs and income inequality) and the nation-level cultural measure proxying patriarchal culture were found to affect individual-level crime victimization experienced by self and by family. Controlling respondents' individual-level routine activities and lifestyle factors, the present study obtained support for sociological theories that outline how unequal structural conditions lead to crime and crime victimization (Blau & Blau, 1982; Merton, 1938; Neapolitan, 1998). Measured nationally, social inequality and resource deprivation set the stage for relatively higher numbers of motivated offenders as well as for weak capability in terms of potential victim's security or protection from the offenders (Chon, 2016).

LRAT considers violence against women, with an emphasis on people's changing behaviors generally, as opposed to men's behaviors in response to changing social dynamics. As gender equality becomes stronger in a nation, changing behaviors expose all individuals, but especially women, to changing risk of victimization. With growing gender equality, the number of women in the workforce rises, so more women's routine activities—now workplace-based—place them, potentially, in a motivated offender's path (Stein, 2010). This development, coupled with the widespread absence of capable guardians (Cohen & Felson, 1979; Eschholz & Vieraitis, 2004; Stein, 2010; Whaley, 2001), may see increased rates of victimization.

One significant contribution of routine activity theory is its consideration of women's absolute status and rates of victimization (Whaley et al., 2013). Although discussions of absolute and relative status of women dominate the literature related to gender equality and victimization, our measures were slightly different. Most generally, absolute status is measured with indicators like education

attainment, income, and occupation, similar to sociological constructions of socioeconomic status (Vieraitis et al., 2015). Accounting for various developmental differences across countries, Gartner (1990) found a significant positive relationship between women's labor force participation and rates of women's homicide. Expanding on this research, Gartner, Baker, and Pampel (1990) included variables in women's education and income, finding those indicators to better represent resources available to women, and at a certain level, to offer a means of protection from victimization. Chon (2016)'s recent findings call into question the role of educational and social status attainment as statistically related to absolute education status of women and relative social status compared to men and instead suggest that measures of gross domestic product or income inequality are more statistically relevant for victimization (specifically, homicide)—we included one of these measures, income inequality, as a structural predictor of victimization, and our findings suggest that income inequality plays a salient role in predicting victimization and is a relevant nation-level predictor of victimization.

The present study demonstrated that nuance is needed in research on various levels of gender equality and crime victimization, and it also showed that nation-level gender equality can increase crime victimization experienced by the self and by family members. Growing gender equality is associated with women's greater presence in the workplace and at other sites with coworkers and family members. New places and expanded routine activities can expose women (and men) to additional risk of crime victimization (DeWees & Parker, 2003) experienced by self or family members. Our study, although it concerned the victimization of men as well as women, generally supported the backlash perspective after we controlled for both of our contextual levels (Russell, 1975) and its contention that gender equality threatens men (Austin & Kim, 2000; Whaley, 2001) and in so doing fosters more crime against women. As societies have progressed toward gender equality, men's loss of their once exclusive access to the breadwinner role has brought complex structural changes to society that affects the family and influence the perception of risk and the normalization of working women (Kelan, 2008). For example, men's rights activism has begun to be promulgated, first in the United States, and also in other Western and even some non-Western nations (Blais & Dupuis-Déri, 2012; Chowdhury, 2014). The men's rights social movement illustrates what our study observed that gender equality becomes a context for increased risk of crime victimization.

Second, this study found neighborhood disorganization to raise the risk of victimization experienced by self and by family when nation-level social inequality and resource deprivation were controlled. Results pertaining to relationships between neighborhood disorganization and victimization were clearly consistent with social disorganization theory, which links neighborhood/community resource deprivation as well as social control (informal and formal) to crime rates (Meier & Miethe, 1993; Shaw & McKay, 1969). Neighborhood context is similarly important to an understanding of the presence of social support's association with crime victimization. Traditionally, social support has been seen to be protective, but its effect on victimization dwindles in a socially disorganized neighborhood (Wright, 2012). Neighborhood context matters, too, when researching willingness to deploy formal social control (police) when one has been victimized while (or soon after) engaging in illegal activity (Berg, Slocum, & Loeber, 2013). In a socially organized neighborhood, victims are relatively likely to involve such formal agents; in a resource-deprived neighborhood, many residents would not do so (Kubrin & Weitzer, 2003). Poverty or resource deprivation is another predictor of neighborhood disorganization and crime victimization and retains salience across a number of social contexts (Larsson, 2006).

Third, our cultural measure of attitudes toward gender equality diminishes neighborhood disorganization's importance to the explanation of crime victimization. The significant interaction term involving nation-level gender equality and neighborhood disorganization provided new clues to social inequality's role in crime victimization. Viewing gender equality as both a structural but

primarily cultural variable, it provides opportunities for women to work outside the home. There, they may encounter potential offenders motivated to commit crimes against them. But there, as well, they can raise household income and gain society's respect for women and girls. Gradually, men's and women's roles in and out of home become more egalitarian. Moreover, the culture of respect that women's employment fosters may diminish the number of crimes against women in and out of home. In time, women enjoying gender equitability can acquire the financial and social resources needed to secure capable guardians for their homes (e.g., security systems) and selves (e.g., coworker partner with whom to walk to public transit, car, or home) supporting a curvilinear statistical relationship between gender equality and potentially violent victimization (Whaley et al., 2013). Such progress reduces neighborhood disorganization's negative impact on crime victimization. Our neighborhood-level results supported the liberal feminist ameliorative argument (Bailey, 1999) that women's increasing social and purchasing power should curtail the negative consequences of any backlash while decreasing rates of crime against women.

The observed negative direction of the interaction between neighborhood disorganization and gender equality implies that very supportive attitudes on gender equality are, in fact, a double-edged sword. While growing gender equality at the level of the nation clearly increases opportunities for women to experience crime (through work with coworkers and others in the workplace), societal acceptance of gender equality may mean more women spend more time away from their neighborhoods, especially during the daytime, diminishing neighborhood disorganization's detrimental effect on crime against women.

Limitations

Several limitations on our study are important to note. First, both dichotomous outcome measures of crime victimization employed are crude. The literature emphasizes the importance of the type of offense (property, violent) and type of victim-offender relationship (strangers, acquaintances), but we had access only to measures lacking these important dimensions (Maxfield, 1987; Xie, Heimer, & Lauritsen, 2012). Since the 2 items related to victimization are standardized and asked across all participating nations in the WVS, measures of victimization included in this study encompass all types of victimization, rather than specifying *violent* victimization for example, or *property* as a category of criminal victimization. We expect, given the copious literature (see Whaley et al., 2013; Fox and Allen, 2014), that a more sensitive measure of victimization or at least bracketing the survey items into *violent* versus *nonviolent* victimization would provide a more detailed accounting of the role of gender equality in crime victimization were the item to be amended in future waves of the WVS. Another way to further sensitize the measures included in the WVS would be to query (at the very least) whether the individual who victimized the respondent was an intimate partner. More robust measures with additional categories would be the most advantageous, but interpreting violent crime or intimate partner violence from within cultures where physical victimization of female spouses is common could prove problematic at the macrolevel of analysis and should be undertaken with caution.

Relatedly, our results are limited by the perceptual nature of the mesolevel neighborhood disorganization items in the WVS questionnaire. Social disorganization research commonly employs structural predictors such as rates of ethnic heterogeneity, rates of low socioeconomic status, and rates of single, female-headed households as predictive of disorganization (Sampson, 1997). Still, the contextual-level data (both neighborhood- and nation level) available in the WVS-W6 provided us considerable opportunity to explore how factors of social inequality and resource deprivation helped explain individual-level crime victimization generally, and future research should attempt to explicitly replicate the mesolevel findings with a narrower sample that allows objective measurement of these predictors. It would be extraordinarily challenging to locate the specific geographic

areas of each respondent, but middle ground could perhaps be found by isolating the state or province of the respondent. Disaggregating national-level predictors to the state or province-level would allow more variability in the contextual neighborhood level, further elucidating the role of this layer of social context in predicting crime victimization.

Finally, we used cross-sectional data from one wave of the WVS for our study, which means we cannot determine the effects of our predictors on victimization of the self and of one's family across time; this may be particularly salient for future research given Whaley et al.'s (2013) findings that gender equality and female homicide victimization may follow a curvilinear pattern and Vieraitis et al. (2015)'s discovery of temporal patterns related to the strength of absolute versus relative status of women in predicting victimization within the United States. Future research in this area would benefit from a longitudinal perspective in addition to the multilevel modeling so patterned differences across time in the relative strength or salience of predictors from the nation-, neighborhood-, or individual-level may become conspicuous.

While we used both neighborhoods and nations as contextual layers for victimization risk, in our study, neighborhood context was a *perceived* measure at the individual level. Published data have rarely included measures in nations, in neighborhoods, and in individuals; however, believing our measure of perceived neighborhood disorganization to provide an estimable compromise, measuring both social inequality and resource deprivation at both the neighborhood and national level, we proceeded. The compromise also allowed us to connect individual-level crime victimization with nation-level factors via neighborhood disorganization nested within represented nations. This design also allowed our research study to partially answer a limitations of Whaley et al. (2013)'s research related to gender and victimization by including intervening individual-level and mesolevel measures and control variables alongside our macrolevel predictors of victimization. Our approach was also significant with the addition of a macrolevel measure of attitudes about gender equality which we utilized as a proxy for culture along with the structural predictors modeled in our study.

Conclusion

Taken together, our findings suggest that LRAT remains a powerful theoretical model for explaining differences in victimization, controlling for effects at multiple levels of analysis and across both of our outcome measures (self-victimization and family victimization). At the national level, social inequality plays a large role in crime victimization, but this finding is further specified with our inclusion of a second contextual level—the neighborhood. The neighborhood level contextual layer also independently predicted increases in victimization controlling for our national-level predictors, indicating that the basic tenets of social disorganization theory are relevant in the middle-range of crime victimization theories. In terms of victimization of the self, we found gender equality moderated the relationship between neighborhood disorganization and crime victimization; this moderating effect was not significant, however, for victimization of a family member and indicates that measurement of absolute status of women (e.g., labor force participation) remains relevant for analyses of gender equality and subsequent victimization outcomes (Gartner, Baker, & Pampel, 1990; Vieraitis et al., 2015). Our findings suggest that as women move into the labor force, the effect of a disorganized neighborhood on their victimization may be diminished, while simultaneously positioning women to leave the home and become suitable targets in shared social space with motivated offenders (Sampson & Groves, 1989).

Prior research has clearly demonstrated that possessing lower levels of resources disadvantages individuals and increases their risk of criminal victimization (Lauritsen, 2001); results from research using multilevel modeling indicate that individual-level policy changes may be insufficient, and we believe policy implications would be better served by aiming at the mesolevel neighborhood or the national level. Clearly, reducing income inequality within a nation state is a tall order, and one that is

not readily available for most individuals or groups. Nations, do, however, have a vested interest in the health and well-being of their populations, and meeting of basic human needs can be undertaken in a variety of ways at both contextual levels. In developing countries, for example, NGOs often help individuals create sustainable living practices, educate the population, and provide resources for improving living conditions (e.g., sanitation). In more developed countries like the United States, there are still millions of individuals who do not have basic needs being met at all or on a consistent basis, and if reducing income inequality is not feasible, then perhaps increased funding for social programs like Medicare and Medicaid could be beneficial for reducing motivated offenders and, subsequently, victimization. Policy implications at the neighborhood-level could include increasing funding for local food pantries or food banks as well as funding of programs aimed at increasing educational opportunities for children and adults in low-income or socially disorganized spaces.

Our study demonstrated that relationships between macrolevel gender equality and individual-level crime victimization should include intervening contextual layers, such as the neighborhood, province, or state in order to avoid confounding results. Additionally, care should be taken by researchers when selecting macrolevel indicators predicting victimization since mesolevel structures (proximate structure) can act to subsume significant macrolevel structural (distal structure) statistical relationships commonly employed within the literature, such as absolute or parity levels of income and education for women, as some recent research suggests (Chon, 2016). We promote further exploration of *both* macro- and meso-level indicators of victimization, perhaps using factor analysis or principal components analysis to condense indicators onto underlying constructs (e.g., social disorganization), focusing particularly on how these indicators relate to changes in likelihood of victimization. We also promote the inclusion of cultural measures (e.g., patriarchal culture) at the macrolevel in order to differentiate the effects of specific structural conditions like income inequality, from values and attitudes that social actors use as motivations or justifications for victimization of other actors. Gender equality, we believe, is a multifaceted concept that is simultaneously structured and cultural, and future research should attempt to find *objective* measures of patriarchal culture that can be employed alongside objective structural constraints.

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Author Biographies

Celia C. Lo, PhD, professor of sociology, Department of Sociology and Social Work, Texas Woman's University, Denton, Texas 76204, clo@twu.edu (email), and 940-898-2052 (phone). Her research interests include alcohol and drugs, disparities in health-risk behaviors and health, and criminology.

William Ash-Houchen, MA, sociology doctoral student, Department of Sociology and Social Work, Texas Woman's University, Denton, Texas 76204, washhouchen@twu.edu (email), and 940-898-2052 (phone). His research interests include criminology, victimization, delinquency, and drug use.

Heather M. Gerling, MA, sociology doctoral candidate, Department of Sociology and Social Work, Texas Woman's University, Denton, Texas 76204, hgerling@twu.edu (email), and 940-898-2052 (phone). Her research interests include human rights, and cross-national relationships between religiosity, gender equality, and levels of economic development.

Conflict Management in Illicit Drug Cryptomarkets

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Carlo Morselli¹, David Décary-Héту¹,
Masarah Paquet-Clouston¹, and Judith Aldridge²

Abstract

Illegal drug markets have been described as “stateless” systems. Drug dealers, moreover, are commonly considered to have a predilection toward the use of violence to resolve disputes arising from dealing activities. While some studies have undermined this popular perception, new trends surrounding the distribution of illegal drugs via online channels (drug cryptomarkets) have shifted the transactional setting from the physical to virtual realm, thus decreasing the likelihood of violent resolution outcomes even further. This article examines conflict management strategies within cryptomarkets by coding discussion forums between vendors and buyers. Violence, as expected, is absent. Strategies more likely reflect alternatives that have been recognized in conflict management research within and beyond illegal market settings: tolerance, avoidance, ostracism, third-party intervention, negotiation, and threats. The overall setting from which such resolutions emerge is clearly not subject to formal regulations, but our analyses illustrate the multitude of informal social control mechanisms that are consistently at play and which underlie the self-regulatory and communal processes that are firmly in place.

Keywords

conflict management, violence, illegal drugs, cryptomarkets, self-regulation

Illegal drug markets, in keeping with illegal markets more generally, have been described as “stateless” settings (Wilkins, 2001), leaving participants to resolve their problems and disputes without the benefit of formal mediating agents and guidelines (Cooney, 1998; Jacques, 2010; Reuter, 1983). Without legally binding contractual arrangements afforded by the state, illegal drug markets have been argued to go hand-in-hand with violence. In his tripartite framework, Goldstein (1985, 1997) remains explicit in regard to this association: “violence is intrinsic to involvement with any illicit substance” (Goldstein, 1985, p. 497). This drug–violence nexus is designed around psychopharmacological (violence due to the effects of a drug), economic compulsive (violence

¹ Centre international de criminologie comparée / School of Criminology, Université de Montréal, Montréal, Canada

² University of Manchester, Manchester, UK

Corresponding Author:

Carlo Morselli, Université de Montréal, C.P. 6128, succursale Centre-ville, Montréal, Québec, Canada H3C 3J7.

Email: carlo.morselli@umontreal.ca

enacted when stealing to buy drugs), and systemic (violence because of extralegal transactional issues) features. While support for the nexus has been found when focusing on the experiences of consumers (see Copes, Hochstetler, & Sandberg, 2015), the prevalence and consistency of violence has been less clear-cut when examining the supply side of illegal drug trafficking settings.

Some researchers construe violence as a social phenomenon, even before considering the selling of drugs specifically. Violence, in this sense, pervades all spheres of a drug dealer's life. Sommers and Baskin (1997) consider that the violence of drug sellers stems not from the distribution of drugs, but rather from the drug underworld that provides a context that favors the use of violence within a larger social environment. Pearson and Hobbs (2001, p. 41) concur: "many of those featuring prominently in middle market drug dealing networks bring with them prior reputations for violent action," with some drug trade participants predisposed to violence even before becoming involved in drug selling. Support for this perspective is demonstrated by the finding that certain drug markets, such as those dealing in cocaine or crack, are more violent than other illegal drug markets (Fagan & Chin, 1990; Johnson, Golub, & Fagan, 1995), suggesting that it is not marketplace illegality per se that deterministically creates violence. Moreover, we find considerable variation in violence connected to drug trafficking across countries, with recent increases (e.g., Mexico) and decreases (e.g., Colombia) in violence not simply linked to the existence and persistence of trafficking in these locations (Duran-Martinez, 2015).

For others, the place of violence in illegal drug settings has been largely overstated. Reuter (2009) has stressed that illegal drug markets are relatively peaceful. Violence has been found to be a last resort, with general consensus identifying the importance of the multiple alternatives to violence employed by drug market actors (Meason & Morselli, 2012). Contrary to the leading assumption underlying Goldstein's framework, Jacques and Wright (2008, pp. 222–223) argue that violence "is not an invariant or inevitable feature of drug markets; many such markets experience little or no serious violence, and even the most violent drug markets are peaceful most of the time." Dickinson (2017) also provides similar evidence on the importance of avoiding violence in drug dealing settings, with firsthand examples of dealers practicing prevention by offering free drugs to clients so as to avoid snitching and eventual enforcement (see also Dickinson & Wright, 2015). Dickinson's dealers were more likely to threaten clients with avoidance than violence. Such assertions are also supported by Coomber (2006) who also describes drug dealing experiences that, in general, indicate that the claim that violence is systematic or systemic in illegal drug markets is largely overstated.

Ethnographic research also supports such an appraisal. Taylor's (2007) study of drug dealing disputes illustrates that outcomes are generally influenced by the seriousness of the dispute and the relational features uniting participants in conflict. Most drug dealing conflicts were found to present little harm and ill intent. For those that were more serious, the likelihood of violence was largely dependent on a preceding enemy link between conflicting parties; friends and long-standing business partners were more likely to find nonviolent resolutions. However, and as Jacques's (2008) critique of Taylor's book also makes apparent, there is much more to this resolution setting than a clear-cut dichotomy between violence and nonviolence. Jacques's point touches on a crucial fallacy emerging from many past drug market settings: The focus on violence in illegal drug markets has generally been approached from a simplistic outlook, lacking the comparison with nonviolence or the even more nuanced assessment that would integrate specific forms of nonviolent outcomes. Much of past research on violence in illegal drug markets (and illegal markets in general) has been tainted by a self-fulfilling prophecy that has us searching for violence and only violence. This fallacy suggests that, if we look for violence in illegal drug settings, we will find it, but this does not allow us to generalize such observations to a market as a whole. Essentially, violence is but one form of conflict management and scenes of violence must therefore be situated within a wider repertoire of conflict management and resolution alternatives. The importance of such alternatives is best expressed by one of the drug dealers who shared his experience and despair with having to resolve

a dispute in Jacques and Wright's (2008) study: "*I mean, what am I going to do: shoot him?*" If questions remain in regard to the prevalence and situating of violence in illegal drug markets, the issue becomes even more salient when we shift the focus away from the physical interactions underlying these traditional markets and toward online channels for illegal drug transactions. Within the last decade, we have witnessed an increasing use of the Internet to facilitate the buying and selling of illicit goods and services, including stolen credit card information (Fallmann, Wondracek, & Platzer, 2010), sex work (Holt & Blevins, 2007), and drugs (Walsh, 2011). The step change for Internet-facilitated drug sales was showcased in the online eBay-style marketplace that was Silk Road, shut down by the Federal Bureau of Investigation in October 2013, and the many marketplaces that have proliferated since. Referred to as "cryptomarkets" (Aldridge & Décary-Héту, 2014; Christin, 2013; Martin, 2014a), these hidden online marketplaces capitalize on the anonymity mechanisms afforded by the Tor network, which hides the IP address (the unique identifier of actors online) of the cryptomarket participants and the servers hosting the cryptomarkets themselves. Cryptomarkets also make use of the cryptocurrency Bitcoin, which also allows for anonymous, international, and instant payments.

This study aims to address two interrelated research questions regarding violence and conflict management within online illegal drug markets. First, to what extent do drug cryptomarkets create self-regulating state-like mechanisms to resolve disputes over transactions? Second, what are the various conflict settlement strategies used by their participants, notably taking into account their resort to threats of violence, or lack thereof. The conflict management strategies analyzed here are based on Black's (1993) and Meeson and Morselli's (2012) past works and model conflict as a process in which its determinants can actualize through four channels and eight strategies.

Situating Violence and Other Forms of Conflict Management

Conflict can be conceptualized as a process where two or more parties argue around a point of contention. In illegal drug markets, such conflicts may arise for several reasons: merchandise problems, debt collection, competition with other suppliers, theft of money or goods, or threats of informants. The resolution of such conflicts may take on several violent and nonviolent forms, with the latter often surpassing the former. This understanding is in line with a well-established perspective. Black (1984) argues that some groups may be stateless even though living under the jurisdiction of a state. For example, Black (1976) argues that the system of social control used by the state and regulated by law is developed among the integrated, the conventional, the wealthy, and the respectable as well as among members of cultural majorities. However, marginal, unconventional, and poor individuals, as well as members of cultural minorities, often occupy relatively stateless locations within modern state societies. Consequently, they are more likely to resolve their conflicts using self-help or retaliatory methods (Black, 1984). Cooney (1997) identifies such stateless spaces within the state as virtual locations. Shakur (1993) maintains that the internal features of these virtual locations and people therein result in rare uses of the law, hostile relations with legal authorities, and little assistance or satisfaction when authorities are called upon to resolve conflicts.

Illegal drug markets are such virtual locations, as individuals engaging in drug dealing have practically no means of legal redress, leading them to find their own conflict resolution strategies. As discussed by Reuter (1984), illegal market participants must establish their own rules in addition to securing the cooperation of others willing to enforce their lifestyles and interpretation of justice.

Black's (1993) work on conflict management distinguishes self-help strategies that are employed by individuals in their personal experiences (e.g., vengeance, discipline and rebellion, avoidance, negotiation, settlement, and tolerance) from third-party interventions that are introduced across various scenes of conflict. Both general forms of conflict management are relevant in illegal drug settings, with more specific management strategies emerging as well (e.g., ostracism and threats).

Building on Black's typology, Meeson and Morselli (2012) propose a 6-point typology of conflict management that differentiates between nonviolent (negotiations, preventive measures, third-party intervention, no resolution) and violent (assault, retaliation) conflict management strategies.

Thus, whether in the form of self-help or third-party strategies, there are many alternatives for drug dealers to turn to when confronted with conflict. Most importantly, several other studies in addition to Jacques and Wright (2008), Taylor (2007), and Meeson and Morselli (2012) show that drug dealers, at all levels of selling, try to avoid violence or generally turn to violence as a last resort (Adler, 1985; Dorn, Oette, & White, 1998; Morselli, 2005; Pearson & Hobbs, 2001; Reuter, 1983, 1984).

Online Illegal Drug Distribution Settings

The conflict management strategies of drug market participants were traditionally constrained by the physical setting in which they operated. Since 2011, however, drug market participants have had the opportunity to transact through online *cryptomarkets* (Christin, 2013; Martin, 2014a). Cryptomarkets have been defined (see Barratt & Aldridge, 2016) as online platforms bringing together multiple sellers or "vendors" and offering strong anonymity properties to their participants through the use of anonymous Internet connections (using the Tor network) and anonymous payments (using one of the available cryptocurrencies, most commonly Bitcoin). These technologies help to protect cryptomarket participants even in the occurrences of law enforcement operations that take down these marketplaces (Décary-Héту & Giommoni, 2016).

Aside from the rarity in auctions, cryptomarkets operate on the same model as eBay or Amazon, in which vendors build virtual shops that buyers can browse through; purchases are sent through the mail. Most items sold on these platforms are related to drugs (Aldridge & Décary-Héту, 2016a) with 70% of all transactions in 2015 related to cannabis, MDMA (ecstasy), and cocaine-related products (Soska & Christin, 2015). Cryptomarkets are international platforms as they bring together actors from around the world. To purchase drugs, a buyer needs to add Bitcoins to an account, purchase a product, and wait for the vendor to ship it through the mail. In most cases, payments are held in escrow, which means the money is kept in a third party's or market administrator's custody until the product is received. This process, combined with automated feedback systems, ensures a high degree of successful transactions.

Cryptomarket buyers report that transactions are more convenient, professional, and safe since meeting face-to-face with a dealer is no longer necessary (Barratt, Lenton, & Allen, 2013; Van Hout & Bingham, 2013a, 2013b). Vendors agree that transactions are more convenient and pleasant and appreciate the professionalism of cryptomarkets and the ease with which a vendor's shop can be set up (Van Hout & Bingham, 2014). A key feature of cryptomarkets is the harm reduction ethos of their participants (Van Hout & Bingham, 2013a and b; 2014). This ethos is centered on active participation in forums to give harm reduction advices, promote informed consumerism, and support other members of the community (Van Hout & Bingham, 2014).

Of particular significance to our research aims is the suggestion that cryptomarkets may reduce transaction-related drug market violence, even if conflicts manifest themselves in other ways (Aldridge & Décary-Héту, 2016a; Martin, 2014b). Importantly, recent survey research suggests that cryptomarket purchasing is associated with less self-reported experience of threats and violence compared to users' reports of these experiences in their purchasing in off-line markets, including through social supply (friendship) networks (Barratt, Ferris, & Winstock, 2016).

Cryptomarkets appear to be settings with relatively low levels of conflict. Indeed, feedbacks left by buyers are almost exclusively positive, with upward of 95% of feedbacks being positive (Christin, 2013). These numbers are impressive but hide a reality where an array of determinants can generate conflicts. We conceive these as falling into six types, listed in Table 1.

Table 1. Summary of Conflict Determinants on Cryptomarkets.

Determinants of Conflicts	Examples
Transaction failures	<ul style="list-style-type: none"> • Delay in shipping • Drug intercepted at borders
Scams by vendors	<ul style="list-style-type: none"> • Phishing links used to obtain account details • Theft of Bitcoin payments
Bad market management	<ul style="list-style-type: none"> • Platform mismanagement • Marketplace scams
Unfair competitive practices	<ul style="list-style-type: none"> • Dissing other vendors • Buying from competitors and leaving bad feedback
Social interactions	<ul style="list-style-type: none"> • Rumors • Disagreements
Law enforcement activities	<ul style="list-style-type: none"> • Arrests • Take downs

Transaction failures include any deficiency in the prospective flow of transactions. These failures can arise from the actors themselves when the drugs shipped are of lower than expected quality. They can also arise from outside factors such as interception by border officials or postal service delays. By dealing online, cryptomarket participants are also subject to scams by other participants. Scams are intentional activities that increase an actor's profits to the detriment of others. The most common scams are thefts by vendors (when lying about having shipped the drugs) and buyers (when lying about not having received the drugs). Another problem is phishing, which takes on many forms but is intended to lead to the takeover of a participant's account to steal Bitcoins or access funds held in escrow. Bad management by cryptomarket administrators has been blamed for allowing such scams to take place. Indeed, participants have complained about administrators that react too slowly to problems, thereby allowing a faulty vendor to scam even more buyers. This platform mismanagement may also lead to late third-party approval of escrow payments and to software bugs that compromise the operational security of cryptomarkets and their participants. In more lax settings, vendors may be able to adopt unfair competitive practices. Such practices aim to disrupt competitors' activities through ostracizing on public forums or making purchases from competitors with the purpose of leaving negative feedback, thereby damaging a competitor's reputations. Attacks of this nature may be particularly effective as most cryptomarket vendors have a near-perfect reputation score; buyers may therefore be put off when planning a purchase from a vendor with a less-than-perfect feedback metric. Buyers and vendors routinely interact on official cryptomarket forums, and these social interactions may result in conflicts among cryptomarket participants. Misunderstandings, disagreements, or rumors can upset participants and generate social conflicts. Finally, law enforcement agencies have tried to destabilize cryptomarkets since the takedown of Silk Road in 2013 (Aldridge & Décary-Héту, 2014). For this purpose, they may undertake various activities such as the use of informants, market obstruction practices, arrests, and even marketplace takedowns. Such activities may lead to mistrust and paranoia that generate conflict among cryptomarket participants.

Conflict Management in Illicit Drug Cryptomarkets

Many scholars have examined the variety of sources and resolution options for conflict in illegal drug markets. As the several demonstrations of nonviolent conflict management options from past research have illustrated, there are key shortcomings to the typical appraisal of what it means to be an illegal drug market participant and how violence is not necessarily the trigger response to a

problem as often believed in mainstream criminological circles. This contention is pushed even further when examining violence in contemporary online and, more specifically, anonymous drug market settings. Indeed, the limitations of Goldstein's (1985) framework on the systemic violence dimension of drug markets become most apparent when applied to cryptomarkets. The social distance between buyers and sellers and the underlying access conditions that precede an actor's inclusion in a cryptomarket decrease and largely eliminate the harmful features that Goldstein associated with traditional drug markets. The spatial extensions offered by online vending minimize territorial disputes. Dealing hierarchies are less of an issue, which should minimize assaults and homicides between competitors or within firms. The transaction costs associated with robberies, burns, and physical retaliation are too challenging, largely because participants' identities are concealed. This relative anonymity should also lead to a radical reduction in the violence that traditionally extended from the elimination of informants. Cryptomarket regulations should thus shift punishment for bad transactions and rip-offs away from violence.

In the age of the Internet and with the rise of illegal drug cryptomarkets, the dominant concepts, frameworks, and theories that have helped us understand and explain illegal drug market conflicts have reached their limits. By making the crucial break with physical interactions, online drug distribution settings avoid the heated and impulsive violent reactions in times of transactional conflict. The social and geographical distances between buyers and sellers that converge in these setting not only reduce the likelihood of violence at the situational level but also limit the capacity of participants to follow through on such ill intents over an extended period.

Hence, whereas researchers have questioned for quite some time the popular association between illegal drug markets and violence within traditional drug supply settings (Coomber, 2006; Jacques & Wright, 2008; Meeson & Morselli, 2012; Reuter, 2009), this study investigates the various mechanisms that provide regulations on cryptomarkets, mechanisms that are traditionally assumed to be absent in stateless locations that characterize off-line drug markets. This includes conflict settlement strategies used by participants and their resort to violence or lack thereof. To do so, we focus on the strategies that cryptomarket participants use to settle conflicts. Extending from Black's (1993) typology, we identified six strategies that could be used by cryptomarket participants to resolve disputes: tolerance, avoidance, ostracism, third-party intervention, negotiation, and threats.

Figure 1 provides an illustration of how resolution of the six determinants of conflict we have identified on cryptomarkets (see Table 1) may be achieved: via four available channels through which disputes can be settled, alongside the six conflict resolution strategies available to cryptomarket customers.

When conflicts arise, four channels are available to cryptomarket participants through which resolution may be achieved. Participants can first initiate direct contact through dialogue with a conflictual party through built-in marketplace messaging systems. A second channel, offered on many but not all cryptomarkets, is the formal support ticket system. Support tickets allow participants to ask for assistance when they have issues with money withdrawal or order resolution. When these tickets are related to conflictual situations, they lead to third-party mediation by cryptomarket administrators who seek to settle the conflict. A more public alternative to support tickets is the use of forums posts. Participants can post publicly about a conflict and discuss the issue with other participants. Some markets also offer specific scam discussion forum sections where participants can post about the perceived mistreatment or injustice. The last channel for conflict management is automatic feedback systems. Participants who feel they have not had their fair share in a transaction can leave a negative feedback to the vendor associated to the transaction. Negative feedbacks allow customers to express their discontent in a transaction and manage the conflict quickly by affecting the vendor's reputation. Of course, cryptomarket participants could seek to settle conflicts outside of the marketplace via confrontation in real life. For this to happen, however, the participant would first need to have information about the other person's identity and location.

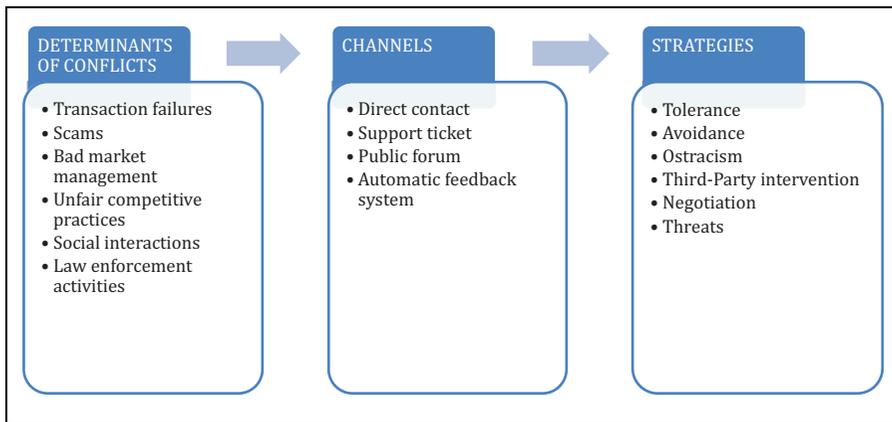


Figure 1. Illustration of the conflict management process.

Of the four channels available for conflict resolution, direct contacts and support tickets are private interactions that can only be accessed by cryptomarket participants and administrators and so are unavailable for public viewing. This leaves two channels open and accessible to researchers to understand conflict settlement, the public forums, and the automatic feedback systems. This article focuses on the former, as the latter provides little in the way of interactions and the feedbacks' qualitative comments typically amount to little more than a few words, which is far from enough to discern the nature of conflicts and the strategy used to settle it.

By examining publicly observable conflict and its resolution on drug cryptomarkets on the public forums, we are unable to observe real-world violence that may be enacted in this connection but can observe threats of violence. In accordance with Jacques and Wright (2008) and Meeson and Morselli (2012), we do not expect to find that threats of violence will be a dominant strategy to settle conflict on cryptomarkets. Rather, we expect that the remaining strategies will play a much larger role in the settlement of conflicts, with third-party intervention by marketplace administrators taking on a key role. The online nature of cryptomarkets should make particularly available the use ostracism as a conflict resolution strategy, since customers are able via discussion forums to publicly identify vendors with whom they have disputes to warn other users and encourage marketplace administrators to intervene.

Data and Method

We used two sources of data to address our research aims. Most cryptomarkets post rules of engagement in the form of conventional statements "agreement and conditions." Using the "Dark Net Market Comparison Chart" published by Deepdotweb (2016), we selected the top 10 marketplaces in the list and then accessed each marketplace to obtain their rules of engagement. All of these marketplaces had rules of engagement that were visible to nonvendors (although two made reference to additional rules only available to those registered as vendors). The marketplaces included the following: Alphasbay, Dream Market, Valhalla, Hansa, Python, Acropolis, Tochka, Cryptomarket, Outlaw, and Nucleus and included the markets with the most listings at the time of writing.

Our second data source was obtained from a cryptomarket discussion forum. The online forum we selected is the official forum of one of the largest cryptomarkets at the time of writing. More specifically, we analyzed 200 discussion threads from the scam reports section of the forum. Normally, this channel would be the third or fourth choice used to settle conflicts after direct contact and support tickets. In this cryptomarket's case, however, market administrators redirected scam

victims to this section of the forum rather than the official support ticket system. This section is therefore the preferred channel to settle conflicts on this particular cryptomarket that is publicly available. We examined all interactions that took place between September and November 2015 but excluded those explicitly referring to nondrug purchases. In doing so, we obtained 679 interactions between buyers, vendors, and market administrators that ensued from the 200 forum discussions.

For each posted conflict, we coded which among the seven conflict resolution strategies (described above) were employed. An interaction could be coded as employing multiple strategies. Our analyses focus on the interactions among the different conflict settlement techniques. In keeping with the emerging literature on ethical conduct in research using digital traces, we paraphrase quotations so that users' online identities cannot be ascertained through searching (Bancroft, 2016) and do not name the cryptomarket from which we collected data (Décary-Héту & Aldridge, 2015).

Self-Regulation in Marketplaces

All of the marketplaces had guidelines that could be broadly characterized as having the objective of reducing harm, particularly third-party harm. Nine of the 10 marketplaces we examined prohibited particular products and services from being listed by vendors for sale. The remaining marketplace referred to rules only accessible to registered vendors, which we were not able to observe. Most typically, these included child pornography, assassination services, and banned weapons or particular subsets of weapons (e.g., weapons of mass destruction, including bombs and poisons). One marketplace stated that its policy on prohibited items was developed following a vote by marketplace participants on the forum. Another marketplace was overtly ideological in banning products and services that involved what it referred to as "discrimination, religion, and politics," although what products and services might be included under this heading were not provided. In most cases, cryptomarket administrators stated that posting listings for prohibited products and services would result in taking down the associated listings.

Seven of the 10 marketplaces listed rules related to security and trust activities either required or prohibited. Five marketplaces did not allow the practice of vendors requesting that customers "finalize early" (i.e., circumventing the escrow of payments while drugs are in transit) in order to bypass the buyer protection that escrow systems provide or allowed the "finalize early" option only to be approved for vendors with a track record. To discourage scamming, two marketplaces stated that too many customer-initiated "scam reports" (thus only accusations not necessarily verified) could result in a vendor account being revoked. Although most marketplace rules were geared toward regulating the activities of vendors, one marketplace described its infrastructure that had been designed to prevent exit scams by marketplace administrators.

Two marketplaces stated that vendors threatening, blackmailing, or "doxing" customers (revealing personal information) were prohibited. Three marketplaces encouraged participants to follow good security and encryption practice; one marketplace stated that not doing so could result in marketplace dispute adjudication services being made unavailable to them.

Conflict Resolution Strategies Used by Cryptomarket Participants

Of our six determinants of conflict listed in Figure 1, most of the conflicts we observed in our sample of forum discussions concerned transactions failures or scams. The main complaints raised focused on the nondelivery of a purchase (*Never received my drugs*), lack of communication following a direct contact initiated by a buyer with a vendor or vice versa (*Never received, never responded, nothing*), or less than expected product quality (*I loaded my shot, slammed it, and my first observation was that it SUCKED ASS*). Some conflicts were also related to administrator inactivity

where questions were raised about the trustworthiness of specific vendors (*I'm pissed at admins for being so slow banning the vendor* or *WILL ADMIN PLEASE FINALLY WEIGH IN ON THIS, FFS!*). All forms of resolutions strategies that were listed above emerged in our fieldwork.

Tolerance. Black (1993) defines toleration as “inaction when a grievance might otherwise be handled” (p. 88). Such inaction is a sign of patience once dissatisfaction with a situation has been raised. Buyers registering dissatisfaction in the forum were often encouraged to wait longer for their purchase to arrive, just as a vendor might be asked for patience in waiting for a customer to finalize a transaction. A typical response to a buyer reporting that a purchase had not been received when expected was “wait a little more” or “be a little more patient and report back.” A buyer screaming “scam” too quickly could result in other forum participants encouraging tolerance: “I understand your frustration but take it from me, he is not a scammer. I have been doing business with [vendor name] since he started and he has delivered 100%”; [Response:] “Take it easy, he’s a good guy.” The purchaser generally concurred with these other participants: “Okay, I’ll be patient a while longer.”

We also observed evidence of tolerance as a conflict resolution strategy when buyers were encouraged to extend their patience while marketplace administrators investigated vendors under review for possible scam activity: “Can I get my money back?”; [Response:] “Not possible until a moderator resolves the issue” and after a vendor scam accusation: “I’ll wait to see his side of the story.” This type of interaction can simultaneously be understood as third-party intervention, discussed further below.

Avoidance. The avoidance strategy, in contrast, occurs when actors manage a conflict by “the curtailment of an interaction” (Black, 1993, p. 79). We found evidence of market administrators and other forum participants using avoidance techniques when there was no response to a complaint brought to the forum as well as via the explicit rejoinder “no response” to a forum complaint, with no further discussion to follow. We cannot ascertain with our data how often dissatisfied marketplace participants avoided conflict by not registering the problem on the forum to begin with. Assuming that such a strategy of avoidance in dealing with conflict did occur, we can surmise that avoidance may have been even more common than we found. The avoidance strategies we did observe, however, suggest that market actors witnessing complaints but not responding to them and where no complainant follow-up discussion ensues both model avoidance by refusing to intervene and encourage avoidance by the complainant—and, in some cases, to the obvious frustration of the complainant: “IS ANYBODY LISTENING HERE?” Evidence of vendor avoidance in dealing with conflict was evident when buyers referred to having privately messaged vendors with a complaint to no effect, as this interaction illustrates: “He sent bad quality bars, but will not deal with the matter.” Discussions initiated by buyers that referred to private communications with vendors going unanswered in this way were particularly prevalent on the forum.

Ostracism. While Black did not explicitly include ostracism as a specific form of conflict management (he included it as a form of avoidance), the prevalence of cases falling within this category was important enough to warrant its inclusion in this study. Ostracizing as a conflict resolution strategy on the cryptomarket forum occurred when buyers attempted to call attention to vendors with whom they were dissatisfied by identifying them with a “scam.” The aim of such action is to exclude someone from the group. This was commonly employed by marketplace participants to manage conflict: “Believe what you like, but this fucking bastard [vendor name] scammed me” or “[vendor name] IS A SCAMMER, NO QUESTION!” Such statements were often explicitly warning other potential buyers: “Do not do business with [vendor name]. He is a selective scammer.”¹ The outcome of disputes often involved not only calling attention to misconduct in this way but was

evident when interactions indicated the possibility of banning of participants outright: “Thanks for letting us know. [Vendor name] is under review. We should be in a position to enforce a ban within 24 hours after further investigation.” This strategy was also evidenced with the common statement “[Vendor name]’s been banned” by marketplace administrators following conflict discussion interchanges.

Third-party intervention. Banning by marketplace administrators is a form of third-party intervention and was a common form of conflict resolution on the forum. We observed third-party mediation in two ways. First, buyers often explicitly requested the intervention of administrators with interactions following the description of a dispute with statements like: “Need help of admin or moderator please” and “Scamwatch, can you talk to him please?” Second, after a customer raised a concern or dispute on the forum, marketplace administrators themselves monitoring the forum might offer to intervene either by asking to be added to private message exchanges with the vendor (“Please add me to those conversations that you’re having with the vendor. If allegations are confirmed, I’ll fuck the vendor up”) or by requesting specific evidence of vendor wrongdoing (“If [vendor name] asked you to FE, please supply evidence and we’ll investigate”; “Shut up or show the proof I asked you to!”). Others participating in these interactions would recommend to the buyer or vendor posting their dissatisfaction to employ the third-party facilities provided by the marketplace: “Just explain your case to the mod in charge” and “Scamwatch, can you advise this guy?”

In line with third-party interventions, monetary sanctions were observed when vendors agreed to refund lost shipments after having raised the dispute on the forum, often after intervention by administrators or the Scamwatch team, as evidenced by interactions ending with “That’s been resolved in your favour” and “I’ve been refunded now, thanks.” Where vendors had been banned or were unwilling to provide refunds, the marketplace administrators could intervene to make payment redress to participants deemed to have suffered loss, although this was observed only rarely and in connection to funds being available to do so. This administrator, in response to a buyer’s scam allegation, illustrated how banned vendors’ assets could be shared by injured parties: “There’s [bitcoin value] remaining in [vendor name]’s account. We’ll divide this up and distribute once everyone’s provided evidence for their losses, but there obviously isn’t much to go around.” This vendor, aware that monetary sanctions could be applied, taunted his victims: “Don’t worry guys there is [trivial bitcoin value] available in my account for refunds.” Monetary sanctions of this kind were likely a “last resort” conflict management option, because vendors banned for scamming often had few Bitcoins left in their accounts. Monetary sanctions were typically employed following ostracism and third-party intervention.

Negotiation. Negotiation is a conflict management option where conflicting parties show a willingness to discuss a resolution strategy to accommodate losses. It is likely that most negotiation interactions will have taken place in private communications between vendors and buyers and so will not be observable in our data. Nevertheless, we saw considerable evidence of negotiation used to resolve conflicts. Even where buyers were concerned about the possibility of having been scammed, a common opener discussion posting indicated a willingness to negotiate: “I’m not calling scam here, but want to discuss my options since [vendor name] hasn’t yet responded to me” and “I don’t want to dispute, but I haven’t received my package. Can anyone advise? I don’t want to name the vendor.” One buyer explicitly offered to negotiate after receiving notification indicating a package had been seized and confiscated by customs authorities but was asked by administrators to “Provide proof please.” Some conflicts were satisfactorily resolved after negotiation: “[Vendor name] provided me a tracking number the same day my order showed up. Everything looks good, and I can find no breakage. I have to retract anything negative I may have said, sorry [Vendor

name].” This buyer, after having first accused the vendor of scamming, closed the interaction with: “I’ve received the package, [Vendor name] is a good seller, I will continue buying from him. Cheers.” Vendors also demonstrated a willingness to negotiate or refund, as this response following a scam accusation illustrates: “You’re acting like babies. If I confirm your shipment hasn’t been received, you’ll get you a refund.”

Threats. Threats were evident on the forum. Comments like this were illustrative and typical: “If [vendor name] doesn’t address this, I won’t finalise so he doesn’t get paid AND will leave bad feedback.” These commonly found threats have much in common with behavior associated with dissatisfaction, which in turn associated with transactions in legal markets. The remaining two threats we encountered may be more unique in the online drug trade (doxing) or traditionally considered to be typical of drug markets more generally (threats of violence). We observed these only rarely but describe each instance in some detail here.

Threats of blackmail via doxing were found in only two of all the interactions we analyzed. In the first instance, a buyer initiated a complaint about a dox threat made by a vendor and retaliated with a counterthreat: “I’ll go public on Reddit with this.” Given the conflict had escalated to the stage of making threats, a negotiated solution was achieved in this case, by way of a partial refund, and this occurred without third-party intervention by administrators. In the second instance, a vendor complained of being doxed by a buyer: “Please help me. I got doxed.” An administrator intervened to request evidence: “If he’s threatening you, please add me to the conversation.” Another forum participant jumped in to defend the buyer: “He’s OK,” followed by a final response from the administrator justifying the decision to ban the buyer: “He breached rules and was dealt with accordingly.”

Threats of violence were rare but did occur. In a first case, two buyers involved in an exchange disclosed threats of violence from the same vendor. An administrator intervened, asking for evidence of the threats from the buyer who started the interchange. A second buyer added a similar experience with the same vendor: “[Vendor name] scammed me too, but I got my money back through arbitration. He also threatened to get me saying he has my address, but it was a drop [not home address] so I don’t care.” The original complainant then claimed to have deleted the messages since receiving a refund after dispute resolution but described the content of the threat from memory: “He said—don’t forget, I have your address—nothing personal, just business.” In both cases, these threats took the form of pointing out to victims that their locations were known, with the threat of violence not made explicit. In a second case, a buyer reported that an agreed negotiation following dispute to split the losses incurred was not followed through by the vendor. The message ended with a warning to others not to deal with the vendor (i.e., ostracizing him). The vendor responded: “Cancer is in your future.” The buyer replied: “Gang rape is in your future!” In a third and last case, a buyer accused a vendor of having scammed him and twice contributed to the exchange with variations on the message: “I WILL KILL YOU MY FRIEND. DON’T WORRY, THE WORLD IS A SMALL PLACE, AND YOU DON’T KNOW WHO I AM:).” The vendor replied in a taunting fashion, suggesting that a ban would not hurt him because of multiple vendor accounts. No administrators intervened in the exchange. These threats of violence appear fairly innocuous, intended perhaps to convey outrage, perhaps even with comic (albeit dark comic) effect. Such snippets of conversation could also be the result of trolls, which are provocative posts to intentionally upset participants and that aim to cause disturbance and within a forum. As Barratt and Maddox (2016) described via their own personal experience, distinguishing between a real and fake threat is an important challenge in Internet interactions. In Barratt and Maddox’s specific case, the threat was dismissed once no real consequences emerged over time. In our case, the presence of trolls that make suchnoconsequence offensive statements is also a strong likelihood.

Standard Operating Conflict Management Procedure

The most common conflict management options undertaken by participants in forums are ostracism, third-party mediation, tolerance, and avoidance. Negotiation and threats were more scarce options, and violence was completely absent. Conflict management is also a process, and therefore, many options were subsequently pursued according to the status of the conflict. We found conflict management patterns that were quite common through the analyses of the discussion threads. A common trait of almost every thread was that participants started their thread by calling out the other party involved in the conflictual situation a scammer: “he is a selective scammer fucker.” This is far from surprising as scam forums are built in part so that people may warn about others.

Hence, most conflicts started with calls for ostracism, from which other management techniques were undertaken by participants, depending on the context. The most prevalent pattern of conflict management among participants was from ostracizing to third-party intervention to banishment. A participant would write: “Long story short, ordered 1 kg. [. . .] Do not order from [vendor name], obviously he is a selective scammer” and then an administrator would respond: “Add me to those conversations.” From there, a great number of conflict management scenes would result in the banishment of a participant with a message of “Vendor is banned” or “Vendor is taken care of.” This pattern was often observed in the conversation and seemed to be the most common way to manage conflict.

Two other less common but still important conflict management patterns were observed in cryptomarkets. The first started with ostracism and then moved to tolerance. Often, participants would first ostracize: “[. . .] [Vendor name] is a scammer! I have not received my order and, after 24 hours, still no reply to my PM[private message].” A subsequent comment called for tolerance: “I can help you. Just wait for some more time” and “[Vendor name] is legit. I did many orders on Agora with him. Don’t see him scamming—maybe just a big misunderstanding.” Often, conflicts management scenes that shift from ostracism to tolerance would resolve quickly, with one participant in the discussion reporting that the conflict had been resolved. Shifts from ostracism to avoidance also represented important conflict management patterns within the scam forums. A participant would start by ostracizing someone and no response would follow the first comment. Most comments with no reply were poorly written, unclear, or excessively abrasive in tone.

Stateless? Regulating and Enforcing Cryptomarkets

Illegal markets have been typically understood to be “stateless,” leaving participants to resolve their problems and disputes without the benefits of formal mediating agents and guidelines (Black, 1984; Cooney, 1998; Jacques, 2010; Reuter, 1983; Wilkins, 2001). When William Ross Ulbricht was sentenced to life in prison for his role in setting up the first and best known cryptomarket, Silk Road, Judge Forrest proclaimed: “In the world you create over time, democracy didn’t exist.” What we observed in this study was that cryptomarkets were far from anarchic or a world ruled by dictators. Official rules were posted publicly on these marketplaces. These rules primarily took two forms. First we discerned “moral/ethical” rules banning the listing for sale of particular items (most typically child pornography and weapons), with one marketplace having agreed on a list of prohibited items after a democratic vote on its marketplace forum. Second, functional rules were necessary to achieve effective marketplace functioning through regulation. In particular, these rules were designed to prevent thefts and scams that might undermine the trust required for ongoing trade in a drug trade that is otherwise uncertain and risky. Particularly when these rules have “teeth” when backed up by effective enforcement, they can be understood as functioning to create self-regulation or nodal governance mechanisms that mirror those provided by traditional agencies of the state for markets in legal goods and services (Martin, 2014b). This leads us to ask: how effective are these rules of engagement in preventing market discord?

Clearly, the self-regulating mechanisms of cryptomarkets do completely prevent vendors from scamming their customers (or customers scamming vendors), nor do they prevent marketplace administrators from absconding with the funds of both, as a number of high profile “exit scams” have demonstrated (e.g., Woolf, 2015). As Branwen’s (2015) research shows, more marketplaces have closed due to inside hacks or scams than as a result of law enforcement take downs. That 1 of the 10 marketplaces we examined for rules of engagement described how its platform was designed to reduce or eliminate vendor scams or administrator exit scams suggests that ongoing innovations in cryptomarkets are aimed precisely at creating effective marketplace function and, hence, longevity.

Our analysis of conflict resolution on the cryptomarket we studied demonstrated that marketplace administrators, alongside a dedicated “scamwatch” team of cryptomarket community members, sought to enforce rules. Participants had access to multiple channels to settle private and public conflicts. These channels give options to cryptomarket participants when conflicts emerge and allow them to have a voice in the decisions made. However, administrators always have the last word when settling conflict and not all conflicts will have resulted in a resolution that satisfies all parties to the conflict. Munksgaard and Demant’s (2016) analysis of political sentiments in marketplace discussion forums between October 2013 and March 2015 identified the presence of a hegemonic libertarian discourse that declined after the closure of Silk Road 1, leading the authors to identify a decrease in political discussion in these marketplaces. Maddox, Barratt, Allen, and Lenton (2016), on the other hand, found that opportunities for open yet anonymous exchange on cryptomarkets encouraged discussions on politically sensitive subjects, such as drug prohibition. Our results suggest that, beyond such discussions, there is real political participation within cryptomarkets that takes the form of policy-in-action through enforcing regulations. By using these conflict management channels, participants actively engage in the construction of a trustable market ecosystem.

Violence and Threats: A Lesser Strategy?

Taken together, the establishment and enforcement of rules and the presence of administrators as “capable guardians” (Cohen & Felson, 1979), alongside the inbuilt conflict reduction mechanisms common to all cryptomarkets (dark net online location, escrow, and customer feedback), reduce the need for cryptomarket participants to settle on their own those conflicts that may still arise and to adopt retaliatory strategies to do so. As seen in Black (1984) and Meeson and Morselli (2012), drug market participants can choose among an array of conflict settlement conflicts and violence is even more the exception than the norm in the case of cryptomarket participants. We saw in our review of scam report threads that most participants would, in many cases, opt to ostracize, be tolerant, and/or ask for third-party intervention rather than resort to the threat of violence. Through the process of conflict management, multiple options would be employed in different order, with almost all inter-actions beginning with the complainant ostracizing the perceived offender in the conflict.

Although scenes of violence appear to be rare in the cryptomarket setting, comparing cases in which violence does emerge to the many in which alternative options are used to resolve a conflict contributes to Jacques’s (2010) quest to further develop a theory of retaliation in illegal drug market settings. The main challenge set forward by Jacques was a data-gathering issue. While we no longer find ourselves within the confines of a physical drug market context, this challenge is conveniently overcome when orienting our fieldwork on the dark web and the accessible discussion forums that are accessible.

Taylor’s (2007) study on drug dealing disputes illustrated that the outcome of a dispute depends on its seriousness and the relational features uniting conflicting participants. As we cannot say anything about the seriousness of a dispute, which depends on the subjectivity of both parties, we can assume that online relationships of cryptomarket participants are mostly economic and, therefore, that the features uniting both parties are quite limited. Considering that relationships mostly

have economic exchange as their purpose and that there are several channels and conflict management strategies to resolve conflicts, the absence of violence or threat is not surprising. Even in off-line drug markets, this method is often a last resort (Meeson & Morselli, 2012). Its use may be less required and effective in the context of Internet. Much more effective is the targeting of reputation. Establishing credibility and trustworthiness on online illicit markets is a challenge and requires long-term investments (Décary-Héту & Dupont, 2013). Reputation is very often the most prized capital of cryptomarket participants, and the ostracizing we observed most frequently attacks it directly. Doing so poses a serious risk to the business of a participant and may have more of an impact than making threats against a vendor that may be thousands of miles away. Where threats were made, these most often took the form of monetary threats or making threats to reputation via customer feedback or further ostracizing, strategies not unusual in markets for legal goods and services.

The Public Nature of Conflicts

Our analysis demonstrated that conflicts on cryptomarkets can be settled publicly and with a range of marketplace participants often jumping to a conflict interaction to bolster the complainant with their own similar experiences or to defend the accused. With cryptomarkets viewed as microecosystems that include their own forums for discussion by the cryptomarket community, ostracism becomes a particularly effective tool for dealing with conflict, not only generating a response to the particular grievance by marketplace administrators but effectively warning others in the community about the allegations against a participant. Exposing conflicts thereby becomes a “duty” for some participants to protect others in their community from a perceived scam. Our finding that participants in this illegal market denounced others thought to breach the pre-established rules implies a form of community social control. Illegal marketplaces facilitated by the Internet therefore challenge notions of the social disorganization thought to characterize the disenfranchised communities that drug markets have been found to exacerbate (Martinez, Rosenfeld, & Mares, 2008). This mutual aid among participants, when a conflict emerges, shows how tight the cryptomarket community can be and how its participants are thereby made interdependent. Future research might consider examining questions around how online illegal marketplaces facilitate social cohesion and, via community activated social control, create virtual locations that may reduce drug market-related harm.

Limitations and Suggestions for Future Research

Our data only included the “public” discussion of conflicts and therefore exclude the private messages between buyer and sellers that also aimed at conflict resolution. Many messages posted to public forum were placed after these private (and therefore not available to us) attempts at conflict resolution have failed. For this reason, we suspect that the data we obtained will overrepresent the more intransigent conflicts on the marketplaces and underrepresent the more peaceable negotiated through private communications. That we still observe as much peaceable conflict resolution as we did perhaps suggests that cryptomarkets may be more effective in managing conflict than our results suggest. Conversely, it is possible that private communications may simultaneously be the location in which more threats, including threats of violence, take place. Future research might use surveys of cryptomarket users to further explore the nature, variety, and extent of experiences of conflict, such as the approach employed effectively by Barratt, Ferris, and Winstock (2016), although the samples obtained from surveys will lack the “full market” picture that is a strength of digital traces (Décary-Héту & Aldridge, 2015).

Our data do not allow us to know how many vendors or their customers may discretely accept situations that give risk to conflict, such as poor quality product or not receiving shipments or payments. However, research in connection with the first Silk Road has described vendors accepting

a certain amount of loss as the costs of doing business: “You have to factor in the increased chance of international packages being seized, and accept the risk to yourself of the loss of funds” (Décary-Héту, Paquet-Clouston, & Aldridge, 2016, p. 74), suggesting that avoidance may occur more often than we observed it, with both drug buyers and vendors accepting this as a cost of illegal drug transactions.

We are unable to observe actual violence, and it is possible that some vendors will have held accurate identifying information about their buyers (names, addresses), and if distance was not prohibitive, might well have enacted violence. This is a limitation of our methodology, and one that survey approaches (albeit with their limitations noted as above) can go some way to remedying. Survey research by Barratt et al. (2016) found that of the 3,794 Global Drug Survey respondents who reported cryptomarket drug purchasing, 1% reported experiences of violence associated with their transactions. This suggests that in spite of their online location, cryptomarkets do not prevent transactional violence. Moreover, as suggested by Aldridge and Décary-Héту (2016b), cryptomarkets remain “anchored” in off-line drug markets “with vendors there purchasing drugs offline to sell online and stock-sourcing cryptomarket customers making their retail sales in offline markets. These anchors in offline drugs markets mean that cryptomarket users involved in drug supply activities may still be victims and perpetrators of violence connected to these face-to-face transactions.”

We found that cryptomarkets created formal “rules of engagement” as a form of self-regulation. Of particular interest was the marketplace that described an infrastructural design aimed at reducing or eliminating scams, and in particular, the marketplace exit scams that have hampered the longevity of the many cryptomarkets that have emerged and disappeared since the first, Silk Road. Whether this particular marketplace will prove immune to this threat remains to be seen. However, it is a truism that markets innovate and change in response to all kinds of threats, from within, and from without in the form of law enforcement interventions. While we cannot predict the nature of these innovations, this research provides a clue: Drug cryptomarkets that are successful are likely to be those that help their participants manage conflict, that capitalize on technological innovations designed to maintain the trust required to buy and sell their illegal products, and that create socially cohesive communities with formal and informal social control mechanisms.

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Note

1. Selective scammers are vendors or customers that scam only occasionally, so that their fraudulent actions (not sending goods, or claiming goods have not been received) are more likely to be believed to be shipment interception or loss, both of which are accepted as inevitable when posting illegal drugs.

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Author Biographies

Carlo Morselli is a professor at the École de criminologie and a director of the Centre international de criminologie comparée, Université de Montréal. His research focuses on organized crime, crime networks, and illegal markets.

David Décary-Héту is an assistant professor at the École de criminologie of the Université de Montréal. His work focuses on online illicit markets, particularly those hosted on the darknet.

Masarah Paquet-Clouston has a master degree in criminology. She specializes in the study of market dynamics behind illegal online activities.

Judith Aldridge is a professor of Criminology in the School of Law at the University of Manchester. Her research focuses on drug use, drug markets and drug policy.