

# International Journal of Criminal Justice

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and Crime Based on Everyday Urban Mobility

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The primary research areas of the journal are change of human behaviors, community response, and social system in the field of criminal law, criminology, criminal justice and psychology. We welcome research contributions that achieve: (a) improving knowledge and understanding of the etiology and trends of crime (b) utilizing theoretical frameworks and research methodologies in evaluation of criminal legislations and policies in different jurisdictions and (c) undertaking analysis and research on enacting and amending the criminal codes and legislations in response to changing or evolving crime trends with an eye towards improving the effectiveness of the judicial system and criminal policies.

# International Journal of Criminal Justice

## Contents

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Invitation Article : A Network Approach to Neighborhoods, Cities, and Crime Based on Everyday Urban Mobility	3
Robert J. Sampson	

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Depression as a Mediator between Negative Interpersonal Relationship and Suicidal Ideation among Korean Adolescents	16
Hyunin Baek, Sung Uook Lee	

---

Breaking the Cycle of Juvenile Justice: A Review of Juvenile Mental Health Courts	43
Jaeyong Choi, Randolph D. Hicks	

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Remedying Racial Profiling under the Fourteenth Amendment by Analogizing Batson v. Kentucky and State v. Soto	68
Yunho Yeom	

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A Comprehensive Explanation of Three Factors for Cyberbullying with Smartphones	95
Seong-Sik Lee, Ha Young Jang, Cheong Sun Park	

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# **A Network Approach to Neighborhoods, Cities, and Crime Based on Everyday Urban Mobility**

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This article presents a theoretical framework grounded in the proposition that a neighborhood's crime rate depends not only on its own conditions, as typically studied, but also the conditions of the neighborhoods to which its residents are connected, through networks of everyday urban mobility. Based on this framework, I highlight three arguments. The first is that even though residents of disadvantaged neighborhoods may travel far and wide, their relative isolation by race and class persists. Second, I argue that mobility-based socioeconomic disadvantage explains neighborhood rates of violence beyond residential-based disadvantage. Third, I argue that a city's degree of social connectedness depends on how uneven and concentrated the networks of everyday mobility are among its neighborhoods, which in turn are hypothesized to predict rates of crime across cities beyond that expected by their residential-based segregation. For evidence, I describe individual-, neighborhood- and city-level research my colleagues and I have conducted to test these propositions using geocoded networks of movement throughout the 50 largest American cities. The results offer a new way of thinking about neighborhood effects, spatial models, and structural theories of crime.

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\* This article is based on Professor Sampson's keynote lecture delivered to the International Forum of the Korean Institute of Criminology, Seoul Korea, on December 6th, 2019.

## Theoretical Motivation

One of the most respected traditions in criminology is the study of variations in crime rates across neighborhoods and cities. In countries around the world, researchers have long examined how the socioeconomic conditions of neighborhoods and cities predict crime rates. My own research on neighborhoods and cities has taken this approach, showing how poverty, inequality, and racial isolation, especially when co-occurring, are strong predictors, and arguably causes, of violence (e.g., Sampson 1985, 2012). But neighborhoods do not exist in social or physical isolation, in large part because of strong patterns of residential spatial segregation, especially in the United States (Massey & Denton 1993). The result is that neighborhoods are often surrounded by other neighborhoods that are socioeconomically similar. These extra-local but proximate spatial processes matter—the socioeconomic conditions of nearby neighborhoods have been shown to be important predictors of violence in a given neighborhood (Morenoff et al 2001, Peterson & Krivo 2010).

The fact that neighborhoods are not isolated islands challenges the implicit assumption of independence typically made in traditional neighborhood-level theories of crime. Although spatial interdependence has been well studied and methods have been adapted to deal with its presence (Hipp & Williams 2020), in this article I explore the explicit implications of a “higher-order” network perspective motivated by the connections among neighborhoods originating from individual mobility across the metropolis. Cross-neighborhood ties created by everyday mobility are distinct from both internal neighborhood processes and spatial processes induced by proximity to adjacent or nearby neighborhoods.

In *Great American City: Chicago and the Enduring Neighborhood Effect* (Sampson 2012), I started to advance this theoretical view by examining how individual-level actions created network structures in the city of Chicago through inter-neighborhood residential mobility and city-wide ties among organizational leaders. The idea was that moving from one neighborhood to another creates a tie, as does one leader consulting with another leader in a different community to address a problem, even a problem that is local in nature. A city can be further defined by the extent to which its neighborhoods are structurally tied together through the many connections these actions forge. In this sense, the individual,

neighborhood, and city levels are united analytically through neighborhood networks (Sampson, 2012, 312, 323). A growing literature in criminology is examining this “neighborhood network” logic based on urban mobility (e.g., Browning et al 2020, Graif et al 2017, Papachristos & Bastomski 2018). My colleagues and I have recently advanced this line of inquiry further by analyzing large-scale social media data to estimate travel patterns for large populations, examining the everyday movement of residents throughout multiple cities. We use these data to examine hypotheses at the individual, neighborhood, and city levels of analysis. I describe each in turn, beginning with the question of individual urban mobility and neighborhood isolation.<sup>1)</sup>

### **Urban Mobility and Neighborhood Isolation**

Living in disadvantaged neighborhoods is widely assumed to undermine life chances because residents are isolated from middle-class or “mainstream” neighborhoods with greater resources and opportunities (Wilson 1987). Concentrated poverty and social isolation are thus hypothesized to lead to higher crime rates in many theories of crime (Sampson & Wilson 1995). Yet, people do not just live in their neighborhoods. Common experience and research from travel diaries verify that over the course of a typical day or week, people often leave their neighborhoods of residence and travel throughout the city (Browning & Soller 2014). Despite this fact, research testing the role of concentrated poverty and social isolation from this “extra local” or neighborhood networks perspective is relatively sparse.

The first goal of our research project, therefore, was to provide a revised conceptualization and test of neighborhood isolation that improves on static measures from census data on home neighborhoods and small-sample studies based on time diaries. To do so, Ryan Wang, Nolan Phillips, Mario Small, and I

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1) In the spirit of the lecture on which this article is based, I sketch an overview of major findings and make no attempt to provide a comprehensive review of the literature. I refer readers to the original research papers highlighted in this article for further details, including the measurement of key concepts, analytic methods, and results. For an independent and recent review on urban mobility and crime that is comprehensive in nature, see Browning et al. (2020). I would also like to acknowledge the ideas and partial excerpts from Sampson (2019), Sampson and Levy (2020), and Levy, Phillips, and Sampson (2020) that I draw from and extend in this article.

leveraged fine-grained dynamic data on the everyday movement of residents from over 650 million geocoded Twitter messages (Wang et al 2018). We used machine learning techniques on these large-scale data to estimate the home locations of almost 400,000 residents of America's 50 largest cities, and in turn we estimated their travel to neighborhoods throughout a city's entire commuting zone over the course of eighteen months. This strategy expands the argument in *Great American City* by directly estimating inter-neighborhood contact based on everyday travel patterns rather than the much rarer act of changing one's home neighborhood by moving out.

We found surprisingly high consistency in patterns of travel from residents of neighborhoods of different race and income characteristics in the average travel distances (in meters) and the numbers of unique neighborhoods visited in the metropolitan region. This similarity seems to contradict the logic of Wilson's (1987) social isolation thesis and the corresponding hypothesis of the constraining effects of concentrated poverty, while supporting theories on the regularity of urban dwellers' mobility patterns based on a small set of basic urban principles that operate locally (see e.g., González et al 2008).

However, we uncovered notable differences in the race and class composition of the neighborhoods visited. Residents of poor neighborhoods are substantially isolated from contacts with non-poor neighborhoods when they travel. We also found that residents of primarily black and Hispanic neighborhoods—whether poor or not—are far less exposed to either non-poor or white middle-class neighborhoods than residents of primarily white neighborhoods. This result means that race is more important than economic status in shaping the mobility patterns of exposure to non-poor white neighborhoods that command resources, even though there are minimal to no differences in distances traveled and the numbers of neighborhoods visited by race.

### **Neighborhood Networks and Crime**

My study with Wang and colleagues (2018) established a method for estimating everyday urban mobility, but its focus was on individual patterns of movement across neighborhood types. We were mainly interested in how individuals living in neighborhoods defined by race and class were exposed to other neighborhoods, similarly, defined by race and class. In a series of

laterpapers, we built on this approach to develop network-based measures and test hypotheses at the neighborhood and city levels of analysis. I now provide a brief overview of this approach and our findings at the neighborhood level, and then in the following section of the paper I extend the approach to the next higher unit of analysis, the city.

A long body of research highlights residential disadvantage as an important predictor of neighborhood violent crime (e.g., Peterson & Krivo 2010, Sampson 2012). At the neighborhood-level, Brian Levy, Nolan Phillips, and I set out to examine how urban mobility flows (by socioeconomic disadvantage) carry consequences for neighborhood rates of violence (Levy et al 2020). To accomplish this goal, we extended Wang et al. (2018) to estimate the extent to which visits outside one's home neighborhood are to disadvantaged neighborhoods in the metropolitan region, as well as the average frequency of visits to one's home neighborhood by residents from other disadvantaged neighborhoods. We used these metrics to introduce a concept we call double disadvantage. Here, a neighborhood is considered doubly disadvantaged if it is poor and either visits mostly poor neighborhoods or disproportionately receives visits from poor neighborhoods. In network terminology, these last two quantities represent disadvantage based on a neighborhood's "outdegree" and "indegree," respectively. Most neighborhood effects research considers a neighborhood to be socioeconomically disadvantaged if it scores highly only on one measured trait, commonly indexed by measures like residential poverty, unemployment, and public assistance receipt. We consider a neighborhood that scores highly on such a residential socioeconomic disadvantage measure, as well as on the two other metrics of mobility-based disadvantage, to be triply disadvantaged.

There are several theoretical reasons to focus on the added value of triple disadvantage in explaining rates of neighborhood violence. Triple disadvantage increases the likelihood of interactions occurring among nonresidents or strangers of similar deprived status, which arguably increases the potential for conflictual interactions, or what Anderson (2000) calls "code breaches," hence increasing the kinds of interpersonal disputes that trigger violence. The ability of a neighborhood to achieve regulatory control also extends beyond these kinds of disputes and even its own institutions, including its ability to marshal crime-preventing resources from municipal and state governments. For example, Light and Thomas

(2019) argue that segregation creates a spatial divide that reduces public investment in and erodes the local regulatory capacity of low-income, majority-black communities. Beyond residential disadvantage, Levy, Phillips, and Sampson (2020) hypothesize that triple neighborhood disadvantage plays an important role in a neighborhood's ability to maintain social control, develop collective efficacy, and access crime-reducing resources. More specifically, the structural connection of a triply disadvantaged neighborhood to other similarly situated neighborhoods would amplify its lack of resources for successful crime control.

Analyzing nearly 32,000 neighborhoods and 9,700 homicides in 37 of the largest U.S. cities, Levy et al. (2020) show that triple disadvantage predicts homicide after accounting for known neighborhood correlates of violence (e.g., density, racial and age composition, residential stability), spatial proximity to disadvantage, prior homicides in the neighborhood, and a city's stable characteristics. Not only does triple disadvantage improve explanatory power over traditional measures, Levy et al. (2020) report that it explains a sizable portion of the association between residential neighborhood disadvantage and homicides. For example, we find that mobility-based disadvantage can account for roughly one-fifth of the relationship between residential disadvantage and homicide. Moreover, including indegree disadvantage (the rate of visitation from other disadvantaged neighborhoods), outdegree disadvantage (the rate of visiting other disadvantaged neighborhoods), and the traditional measure of residential disadvantage increases the explanation of neighborhood homicide counts by almost a third more than a model including only residential disadvantage and controls. We also find: "For homicides, indegree disadvantage, or the influx of visitors from other poor neighborhoods, is more salient than outdegree disadvantage. In terms of specific mechanisms, neighborhood drug activity, interpersonal friction, and gun prevalence can explain sizable portions of the association between triple disadvantage and homicides."

There are certainly several limitations to this study. The results I have described are not causal even though we show a substantive and statistically significant relationship between triple neighborhood disadvantage and homicides, controlling for city-level fixed effects, lagged homicides, and a set of theoretically chosen covariates measured with precision. Future research, perhaps using natural experiments that change the nature of interneighborhood mobility, might provide a

stronger causal design. We note in the paper that further research is also needed on data sources that can potentially overcome the limitations of social media data, such as cellphone records that capture movement based on GPS position measurement (Browning et al 2020). In the future, for example, if mobility data become publicly available from smartphones or fitness trackers consistently used by many individuals, these could provide added value. This would be especially true if data exist for a representative and non-proprietary sample of people in many neighborhoods. In the meanwhile, in a supplemental analysis, Levy et al. (2020: Appendix) provide a validation test in Houston, which demonstrates that Twitter data offer a close approximation of mobility patterns estimated from cell-phone GPS tracking.

Despite the limitations of social media data and allowing for inevitable measurement error, I would argue that the results of Levy et al. (2020) indicate that the concept of triple disadvantage can be reliably measured and that it has independent explanatory power. At the least it is a novel theoretical concept that can be expanded in future research and tested with other data sources. By highlighting the added value of triple disadvantage beyond residential disadvantage for explaining neighborhood disparities in homicide, this research thus provides fresh evidence and a new theoretical framework for the importance of extra-local conditions in understanding spatial inequality in the U.S.

### **City-Level Connectedness**

I now turn to an overview of how a neighborhood networks approach sheds light on the connectedness of cities, which in turn has theoretical consequences for crime rates. I begin with the work of Phillips, et al. (2019), who developed two structural measures of mobility-based connectedness for the 50 largest American cities—one based on the equitability, or evenness, of everyday mobility and the other on equality in the dispersion, or concentration, of urban mobility.

Drawing on the same underlying data in Wang et al. (2018) and Levy et al. (2020) but taking a more formal network perspective and ultimately defining measures for a different unit of analysis, Phillips and colleagues (2019) conceptualized a city's connectedness (or "social integration") as the extent to which its neighborhoods are tied to one another by the movement of their residents. Here, the city itself is a network in which neighborhoods are vertices,

or nodes, and residents' travels between neighborhoods are edges, or ties (see also Sampson 2012, 311). They developed two formal measures: one based on the degree to which neighborhoods are connected to each of the others in equal proportion and one based on the extent to which travels are concentrated in a handful of receiving neighborhoods, or concentrated mobility. More specifically, the equitable mobility index (EMI, hereafter "equitable mobility") reflects the extent to which residents of each neighborhood in a city travel to all other neighborhoods in that city equally. The concentrated mobility index (CMI, hereafter "concentrated mobility") represents the extent to which residents' travels outside their residential neighborhoods are concentrated in receiving destination neighborhoods. The concentrated mobility for each city is calculated as the Gini coefficient for the distribution of normalized indegree values—the share of all visits in a city that are in each neighborhood—for all neighborhoods in the city. Ranging between 0 and 1, a low value indicates a lack of "hub" connectedness or widely shared public spaces, such as parks, downtown areas, or other places that generate a concentration of visits from residents around the city.

Sampson and Levy (2020) extended this approach to examine whether these two measures of mobility-based disconnectedness are related to violence beyond the expected effects of traditionally measured segregation based on residence. Theoretically, social integration depends on opportunities for contact, no matter how fleeting (Blau 1977, Blau & Schwartz 1984). Opportunities for contact do not guarantee contact—but the absence of opportunities, as indicated by segregated mobility, will undermine an essential precursor of macrosocial integration, in this case of a city. In addition, spatial divisions in everyday contact are likely to reduce the identification or concern that residents in any given neighborhood have for the other neighborhoods of a city, which can translate into reluctance to support investment in public goods such as housing, schools, transportation, and substance-abuse treatment, eroding systems of social control that prevent violence (Sampson 2012).

Figure 1, from Sampson and Levy (2020, 81), visualizes a key result. The figure plots terciles of the homicide rate by equitable mobility and concentrated mobility. The vertical and horizontal lines in the plot area identify median levels of equitable mobility and concentrated mobility. The figure reveals that cities with low levels of equitable mobility and low levels of concentrated mobility—those

occupying the lower left corner of the plot—are associated with higher rates of homicide. Essentially, these are cities where many neighborhoods have limited direct mobility ties and relatively few hub neighborhoods and shared public spaces exist. Detroit, Cleveland, Baltimore, and Philadelphia, for example, have low values of both concentrated mobility and equitable mobility, indicating that the mobility network is cleaved, such that residents there neither travel to the same neighborhoods in large numbers (shared visitation) nor do they travel to many of the neighborhoods in the city overall. As we note (Sampson and Levy, 2020, 82), only one city with a homicide rate in the lowest tercile (Los Angeles) appears in the lower left quadrant of the figure, and its score on concentrated mobility barely falls below the median. Overall, the mean (unlogged) homicide rate of the cities in the lower left corner of Figure 1 is 21.48 per 100,000, which is substantially higher than, in one case more than double, the homicide rates in the other three quadrants (11.50, 10.01, and 11.64, respectively, going in a clockwise direction).

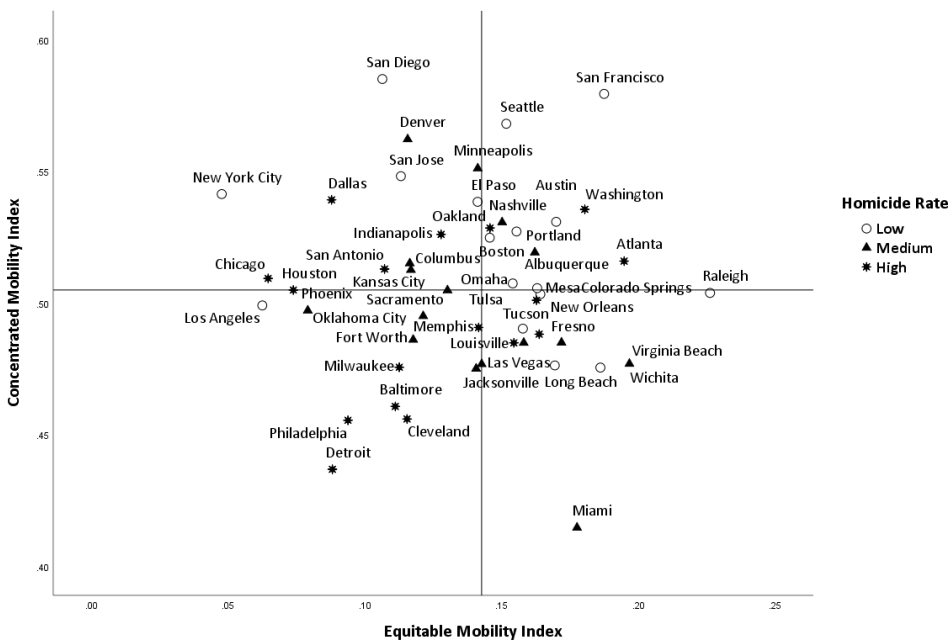


Figure 1. City homicide rates (terciles) by equitable and concentrated mobility (raw values). Adapted from Sampson and Levy (2020, 81).

The combination of these measures therefore reveals distinct insights about the nature of a city's structural integration based on mobility and its potential importance for the incidence of violent crime. In the full paper, we also showed that racial residential segregation is negatively correlated with both measures of mobility-based connectedness and that the negative relationships maintain when education, income segregation, city size, and density are controlled (see also Phillips et al. 2019: Table 2).<sup>2)</sup> Yet, the correlations among residential segregation and mobility-based connectedness are not so strong as to suggest that the measures are duplicative. To further assess the associations of our network-based variables with homicide rates, Sampson and Levy (2020) conducted a multivariable regression analysis. Controlling for racial segregation, education, income segregation, city size, and density, the interaction shown in Figure 1 still obtains. Cities with low levels of equitable mobility and low levels of concentrated mobility are associated with higher rates of homicide.

Like the neighborhood-level analyses, these city-level results have limitations. The results are not causal, and the sample size of cities is very small, at 50. And once again, the Twitter measures contain selection biases and need to be more widely replicated with other data sources, such as cell phone records. I thus consider the results suggestive and would emphasize foremost their theoretical value in generating new research.

### **Toward a Future Research Agenda**

Racial and economic differences in social isolation are notable given recent declines in racial segregation, the increasing diversity of American cities (Firebaugh and Farrell, 2016), and the perception that modern urbanites travel far and wide. As Wang et al. argue (2018), a previously unrecognized form of social isolation is nonetheless occurring, whereby residents of disadvantaged neighborhoods

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2) In another analysis, Candipan et al. (2020) go further to propose a dynamic measure of mobility-based racial segregation—the segregated mobility index (SMI)—that captures the degree to which neighborhoods of given racial compositions are connected to other types of neighborhoods in equal measure. They find that the SMI captures a distinct element of racial segregation, one that it is related to, but not solely a function of, residential segregation. A city's racial composition also matters—minority group threat, especially in cities with large black populations and a troubled legacy of racial conflict, appears to reduce movement across neighborhoods in ways that produce previously undocumented forms of racial segregation.

travel well beyond their home residence and yet their relative isolation and segregation by race and class persist within the wider metropolis. This finding, based on a population that is technologically connected and likely more mobile than the general population, implies that segregation and more generally, social isolation, operate at a higher-order level than typically appreciated or systematically measured by urban scholars. Put differently, racial and economic segregation are manifested not only where people live, but also where they travel throughout a city and to whom they are exposed to by visits from others. The inevitable conclusion is that although the U.S. is becoming increasingly diverse, interactions across race and class groups that ultimately contribute to societal integration (Blau and Schwartz, 1984) are not taking place (Candipan et al 2020).

In this article, I have emphasized research building on this mobility-based approach to advance our understanding of crime rates among neighborhoods and cities. Considering the limitations and considerations above, I view the results of this research project as a kind of “proof of concept.” Indeed, despite the data being limited to geocoded social media data, it is perhaps surprising just how much added value there is in using triple disadvantage and structural connectedness to predict a hard outcome like violence at the neighborhood- and city-level, respectively. Triple neighborhood disadvantage improves our understanding of variation in homicide rates, and the interaction of equitable mobility and the concentration of travel to common areas adds substantially to the prediction of homicide and overall violence across cities, after controlling for racial segregation, economic inequality, and several other traditional factors. In Sampson and Levy (2020), there is also little evidence that patterns of everyday mobility mediate the influence of residential racial or economic segregation. Both dimensions of the connectedness of cities—one rooted in place of residence, and the other encompassing interneighborhood exposure based on travel throughout the metropolis—are implicated in violence. In this sense, social connectedness is a multi-layered force that yields an enduring higher-order structure (see also Sampson 2012, 375-377), one that is potentially more consequential than original neighborhood-based theories of crime ever anticipated.

An important question is whether patterns of higher-order segregation exist in global cities such as Seoul, London, Mumbai, Shanghai, and São Paulo, and whether or how they are related to crime. My prediction is that neighborhood

networks forged by urban mobility have general properties with consequences for the explanation of crime rates even in cities that vary widely in cultures, populations, diversity and other features of urban life. I look forward to future research that can test these ideas and advance the field of criminology further.

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# Depression as a Mediator between Negative Interpersonal Relationship and Suicidal Ideation among Korean Adolescents

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## Abstract

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South Korea has one of the highest global suicide rates. In spite of the notorious ranking of suicide rate across the world, analyses of the cause of suicide have been rare in South Korea. Using a Korean survey in 2010 with 399 samples aged 12 to 21, this study conducted structural equation modeling to apply Agnew's general strain theory to suicidal ideation of adolescents. This study supported the theory's assumption that negative interpersonal relationship increased suicidal ideation, with mediation effect of depression level. On the other hand, some findings in this study should be questionable. More specifically, negative relationship with friends decreased adolescents' suicidal ideation. Eventually, however, it increased their suicidal ideation through swelling depression level. In sum, results of this study could help guide to explain the cause of suicidal ideation by interpersonal relationship. In particular, they showed the applicability of general strain theory in South Korea.

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## Keywords

Suicidal Ideation, General Strain Theory, Interpersonal Relationship, Depression

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## INTRODUCTION

Suicide is the third leading cause of mortality in adolescents and young adults aged 10 to 24, as well as the highest leading cause of death worldwide (Heron, 2016; Värnik, 2012). According to the World Health Organization (WHO) Mortality Database, global suicide rates among adolescents have increased by 60% in the last four decades (Wasserman, Cheng, & XinJiang, 2005). Furthermore, WHO estimated that 793,000 people across the world died by suicide in 2016 (WHO, 2016). Additionally, the Center for Disease Control and Prevention (Curtin & Heron: CDC, 2019) reported that 47,173 individuals committed suicide in 2017. The most concerning out of all these statistics is that South Korea has always been the top three countries for suicide rates amongst Organization for Economic Cooperation and Development (OECD) countries since 2003 (CDC, 2015).

In 2016, South Korea had the highest suicide rate amongst OECD countries, at 24.6 per 100,000 people, compared to a rate of 10.6 in the US in 2017 (Curtin & Heron: CDC, 2019). Further, the suicide rates of South Korea have been gradually increasing from 16.6 in 2000 to 24.6 in 2016 (OECD, 2017). More specifically, Korean Statistics reported that suicide was the leading cause of death among Korean adolescents in 2016 (26.9 per 100,000; Korea, 2018). On the other hand, the OECD average of suicide rates was 6.4 suicides per 100,000 population aged 15 to 19 years (Hewlett & Moran, 2014). According to the report from OECD, suicide rates of Korean adolescents have continuously increased while the rates of other OECD countries have decreased (Hewlett & Moran, 2014). Despite this situation, causal relationship analyses of suicide in South Korea have been rare; few studies have examined causality of suicidal ideation and suicide attempts (e.g., Lee, Kim, Park, & Shim, 2010; Park & Lee, 2016).

Furthermore, studies regarding the causality of suicide are not a simple task since its definition is unclear and reporting of suicide is inaccurate (Fergusson et al., 2005). According to a medical dictionary (Stedman, 2000), suicide is defined as “the taking of one’s own life.” The definition included the meaning of completed suicide. Nevertheless, when analyzing causal factors, suicide is described differently as suicidal ideation, suicidal plans, suicidal behaviors, and suicide attempts (Andrew & Lewinsohn, 1992; Bebbington et al., 2009; Bridge, Goldstein, & Brent, 2006). That is, suicide ideation is the starting point and

suicide is the endpoint of a continuum; suicidal plans, suicidal behaviors, and suicide attempts occur along this continuum (Aliverdina & Usefi, 2014).

Although not an exhaustive definition, suicide is used in the literature to combine all the behaviors and factors related to suicidality and suicide risk (Andrews & Lewinsohn, 1992; Bebbington et al., 2009; Bridge, Goldstein, & Brent, 2006). In particular, suicidal ideation and attempts were powerful predictive factors for suicide deaths (Klonsky, May, & Saffer, 2016). Additionally, prior studies have found several risk factors for suicide, such as mental disorder (Klomek et al., 2011; Luoma, Martin, & Pearson, 2002), previous suicide attempts (Jenkins, Hale, Papanastassiou, Crawford, & Tyrer, 2002; Carter, Child, Page, Clover, & Taylor, 2007), family history of suicide (De Leo & Heller, 2008; Lester, 2002), and suicide contagion (Sisask & Värnik, 2012; Wang, 2012). Particularly, depression and personality disorders are common factors of impact on the suicidal continuum (Bertolote & Fleischmann, 2002). Therefore, by using these risk factors related to suicide, examinations of the cause of suicide will be possible.

Numerous studies found that depression was a significant predictor for suicidal ideation (Bertolote & Fleischmann, 2002; Chaung, Kim, Yang, & Lee, 2016; Sigfusdottir, Asgeirdottir, Gudjonsson, & Sigurdsson, 2013; Woo & Kim, 2011; Woo, Park, & Jung, 2010). Further, studies have found that negative interpersonal relationships were related to later depressive symptoms (Carson, Sullivan, Cochran, & Lersch, 2009; Hollist, Hughes, & Schaible, 2009; Moylan et al., 2010; O'Keefe, 1996; Sigfusdottir et al., 2013; Watts & McNulty, 2013). This depression had an influence on suicide behaviors (Dube et al., 2001; Walls, Chapple, & Johnson, 2007).

Researchers have also indicated that experiences of maladaptive parenting (i.e., abuse, rejection) were highly linked to suicidal ideation (Button, 2015; Walls et al., 2007). For instance, caretaker rejection and coercive parenting were also related to suicide in this sample (Walls et al., 2007). Many studies have found that parental child maltreatment was a key predictor for later deviant behaviors of youths (e.g., Baek et al., 2018; Carson et al., 2009; Fagan, 2005; Hay & Evans, 2006; Hollist et al., 2009; Watts & McNulty, 2013). Furthermore, the negative relationship with family is not only a predictor of suicidal ideation and psychiatric disorders among adolescents, but also negative interpersonal relationships with

others (e.g., teachers and friends [Agnew, 2001; Agnew & Brezina, 1997; Button, 2015; Klomek et al., 2011; Lee et al., 2010; Walls et al., 2007]). Regarding negative interpersonal relationships, Agnew's (1992) general strain theory places particular focus on negative emotionality (e.g., anger and depression) as a mediating cause of negative consequence. Thus, it may be useful in the explanation and understanding of suicidal ideation.

## THEORETICAL BACKGROUND

General Strain Theory (GST) developed by Agnew (1992) explains that individuals who experienced strain evoke negative emotionality. Although some may use prosocial coping mechanisms to relieve these negative emotions, others select antisocial means (e.g., deviant and criminal behaviors) of escaping the negative emotion associated with the strain (Agnew, 1992). GST indicates that there are three main types of strain responsible for deviant or delinquent behavior: 1) failure to achieve goals, 2) extinction of positive stimuli, and 3) presentation of negative stimuli. The first type of strain, failure to achieve goals, is similar to Merton's (1938) original strain theory. When a person is in a situation where he or she is prevented from or blocked from achieving their goal via legitimate means, they then will achieve their goals via legitimate means, crime.

This strain according to Agnew (1992) is defined as 'failure to achieve goals' as the inability of an individual to obtain what they want. Hence, this strain can lead individuals to be hopeless about the future, and may develop suicidal ideation in order to remove the feelings of inadequacy and hopelessness. The second type of strain is the removal of a positive stimulus (Agnew, 1992). This is a situation where something good (positive stimuli) in a person's life is removed or disappears. For example, the death of a loved one or close friend becomes a situation where a positive stimulus is removed from one's life. These strains can lead to the negative emotion such as depression and later lead to the deviant act of suicide or suicide ideation. The last type of strain is the presentation of negative or noxious stimuli (Agnew, 1992). A strain occurs when an individual is presented with an adverse event or situation they dislike. For example, ill treatment by others, poor parental practice, victimization of bullying

by peers can be a good example of ‘presentation of negative or noxious stimuli’ (Agnew, 1992).

Researchers provide support for GST’s theoretical propositions that identified the causes of delinquency (e.g., Agnew & Brezina, 1997; Agnew, Brezina, Wright, & Cullen, 2002; Hollist et al., 2009; Moon, Morash, McCluskey, & Hwang, 2009). However, relatively few studies have used GST principles to examine the relationship between depression and suicidal ideation (Baek, Roberts, & Higgins, 2017; Bertolote & Fleischmann, 2002; Dube et al., 2001; Walls et al., 2007) or regressions of negative interpersonal relationships and negative emotions on suicidal ideation (Agnew, 2001; Button, 2015; Hay & Meldrum, 2010). While anger is thought to be the most likely mediating emotion leading to criminal coping, many studies have found other negative emotions, such as depression and anxiety, to also act as mediators (e.g., Gao, Wong, & Yu, 2016; Lin, Dembo, Sellers, Cochran, J., & Mieczkowski, 2014; Moon, Hwang, & McCluskey, 2011).

Particularly, studies have used GST to explain suicidality (e.g., Francis, 2014; Hay et al., 2010; Hay & Meldrum, 2010). Walls and her colleagues (2007) supported GST’s proposition that poor parenting and caretaker rejection as noxious strains increased suicidal ideation or attempts among American Indian Youth. Kaufman’s (2009) study also found support for GST; this study examined the impact of serious strains (suicidal behavior by friends and family) on suicidal ideation with mediating negative emotions. Furthermore, Sigfusdottir and colleagues (2013), Using data from the national survey in Iceland, tested GST’s hypotheses among high school students and found sexual abuse and family conflict/violence was negative or noxious stimuli. More importantly, it influenced suicidal ideation and suicide attempts, with mediating effects of depressed mood as a negative emotion (Sigfusdottir et al., 2013). Although a variety of strains could be crucial predictors of suicidal behaviors, interpersonal relationships with others are also important to examine in order to account for suicidal ideation.

Agnew (2001) demonstrated that negative interpersonal relationships (in particular, negative relationships with teachers and peers) were a significant type of strain in GST’s hypotheses. Studies found that negative interpersonal relationships with others increased depressive symptoms and suicidal ideation (Agnew & Brezina, 1997; Baek et al., 2017; Button, 2015; Fotti, Katz, Afifi, & Cox, 2006; Klomek et al., 2011; Lee et al., 2010; Walls et al., 2007). For

instance, Button (2015) examined the link between social support of youths, and suicidality in the past year. The results found support for the hypothesis that social support (e.g., parents, teachers, and friends) decreases suicidality in adolescents (Button, 2015).

More specifically, studies have found that negative interpersonal relationship with peer was a significant predictor of suicidal ideation (Cui, Cheng, Xu, Chen & Wang, 2011; Gini & Espelage, 2014; Hinduja & Patchin, 2010). For example, Cui and colleagues (2011) found that negative relationships with peer was a significant predictor of suicide ideation and attempts. Similarly, Hinduja and Patchin (2010) found that American adolescents who had negative relationship with peers, specifically experiences with bullying victimization and offending, were more likely to have suicidal ideation. Also, Gini and Espelage (2014) found that peer victimization was significantly related to increased chance of suicidal ideation and suicide attempts among adolescents. The negative interpersonal relationship with peer was not the only predictor of suicidal ideation. Fotti and her colleagues (2006) found that poor peer and parental relationships were significantly associated with suicidal ideation and attempts among early adolescents.

As such, studies have also found that negative interpersonal family relationships were a significant predictor of suicidal ideation (Compton, Thompson & Kaslow, 2005; Harris & Molock, 2000; Sewall, Goldstein, Salk, Merranko, Gill, Strober, Keller, Hafeman, Ryan, Yen, Hower, Liao, & Birmaher, 2019; Topol & Reznikoff, 1982). Topol and Reznikof (1982) found that when adolescent have a negative relationship with parents, they feel hopelessness which was a significant predictor of suicidal ideation. Compton and colleagues (2005) examined the protective role of family relationships and social support on suicide attempts. They found that lower levels of family cohesion increased the African American adolescent's likelihood of suicide attempts. Similarly, Harris and Molock (2000) also found that family cohesion and family support was a significant predictor of suicidal ideation and depression among African American young adults. A recent study by Sewall and colleagues (2019) also concluded that negative interpersonal relationships such as negative family and peer relationship were associated with suicidal ideation for youth even when controlling for their current bipolar symptoms.

Teacher-student relationships have been found to impact adolescents' suicidal

ideation as well (Han, Fu, Liu & Guo, 2018; Madjar, Walsh & Harel-Fisch, 2018). For example, Madjar and colleagues (2018) found that interpersonal relationships such as teacher, parent, and peer support were all significant predictors of adolescent's suicidal ideation. Additionally, Han and colleagues (2018) examined the role of teacher student relationships regarding suicidality in Chinese youth. They found that teacher-student relationship was a significant predictor of suicidality.

In addition, although they did not mention GST propositions, a few studies in South Korea examined relationships between negative interpersonal relationships, depression, and suicidal ideation (Bae, Yoon, & Cho, 2015; Kim, Park, Park, & Kim, 2012; Woo & Kim, 2011). Woo and Kim (2011) found that negative interpersonal relationships significantly increased students' suicidal ideation and depression. In another study (Kim et al., 2012), suicidal ideation was strongly associated with interpersonal relationships with teachers and peers; specifically, the interpersonal relationships with parents was the most significant predictor to suicidal thinking. However, these studies were not based on structural equation modeling (SEM); in particular, they did not include mediation effects of depression. As shown in previous studies (e.g., Kaufman, 2009; Sigfusdottir et al., 2013), depression as a mediator between interpersonal relationship and suicidal ideation should be included.

In response to all above issues, the purpose of this study was to provide an understanding that might lead to the reduction of suicidal ideation through examining negative stimuli and emotions hypothesized by the General Strain Theory. In particular, this study focused on adolescents in South Korea since few studies have examined suicidal ideation using general strain theory on a South Korean population. Therefore, this study intended to examine if the negative interpersonal relationships influence suicidal ideation, with the mediating variable of depression, amongst a unique international sample. As related to this research question, this study conducted analyses of structural equation modeling (SEM) with seven hypotheses. Figure 1 provided a graphical presentation of all the hypotheses.

Hypothesis 1: Negative relationships with friends increase suicidal ideation.

Hypothesis 2: Negative relationships with teachers increase suicidal ideation.

- Hypothesis 3: Negative relationships with family increase suicidal ideation.
- Hypothesis 4: Negative relationships with friends increase depression.
- Hypothesis 5: Negative relationships with teachers increase depression.
- Hypothesis 6: Negative relationships with family increase depression.
- Hypothesis 7: Depression increases suicidal ideation.

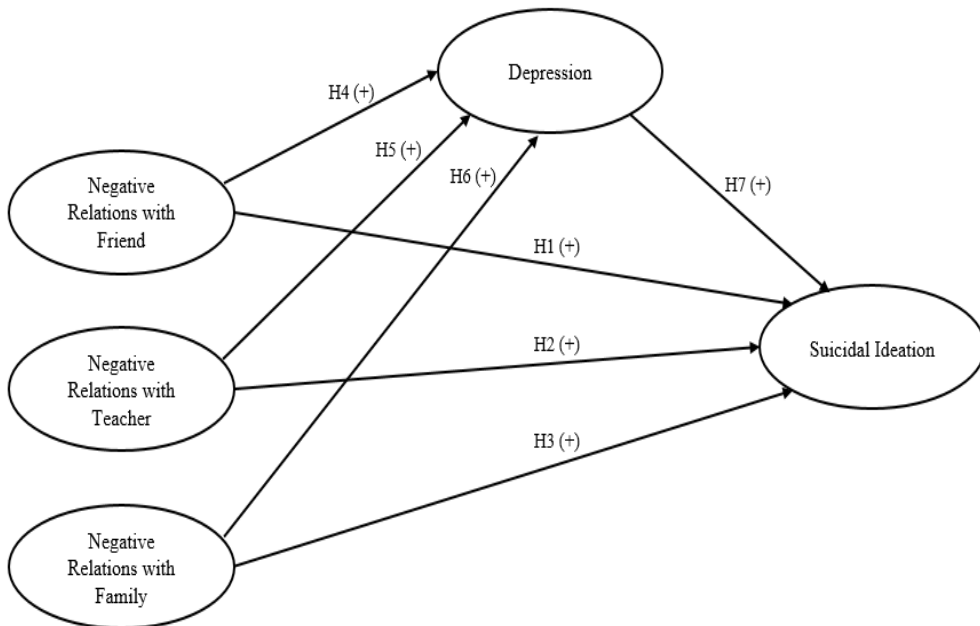


Figure 1. Research Models with Hypotheses

## METHODS

### Data

This study used data, *A Study on the Prediction Factors of Youth Suicide* (Lee, 2010), from a Korean survey in 2010, which was gathered from 9 cities of South Korea from May to August in 2010. According to the data description, the researcher used non-probability sampling (i.e., purposive sampling). The data were donated to the Korean Social Science Data Archive in 2014 (data code: A1-2010-0165), which is a non-profit social science data archive integrating the Korean Social Science Library and the Korean Social Survey Data Archive. The original data have various questions about respondents' self-esteem, school stress, family cohesion, deviant behaviors, social conception about suicide as well as demographic information (Lee, 2010). The total sample size was 399. Of these, 202 (50.6%) were female and 196 (49.1%) were male; one did not respond this item. The ages of respondents were between 12 and 21, with an average age of 15.5. Regarding socio-economic background of their parents, approximately 76% of students responded that an income level was above middle, while about 24% of them did that it was low. Respondents were also living in different regions: 40.9% in a metropolis, 42.4% in a small or medium-sized city, and 16.3% in a farming village (0.5% of respondents were no answer).

### Measures

Suicidal ideation (SI) was composed of 4 items and each item was represented as SI in the study model\*. Survey questions asked respondents: "I have been thinking about suicide," "I have recently thought of wanting to die," "I have said to someone that I want to suicide," and "I have ever thought that my life would end up killing myself." The respondents used an answer choice for these questions (1 = not at all to 5 = always). Higher scores on the scale indicated more intention of suicide.

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\* Our presentation, of this labeling system in the text and in the tables were designed to assist the reader.

Other variables were derived from Agnew's (1992) General Strain Theory (GST), including both negative stimuli and negative emotion. With 14 items, negative interpersonal relationships as the exogenous variables used to represent negative or noxious stimuli. The variables were then divided into three groups: relationships with friends (5 items), teacher (4 items), and family (5 items). Tables 1 and 3 shows more detailed information about observed measures. Respondents used a five-part Likert scale for each question, answer choices ranged from 1 = not at all to 5 = always. Thus, the higher score means that students did not have good relationships with friends, teachers, and family.

The mediating variable used to assess negative emotion was depression. The Depression measurement utilized 4 items, which included the following questions, "Over the last month, how often have you been felt by any of the following questions?: I am sad and depressed, I am not interested in anything, Everything in my life is tough, and I consider myself useless to others. Answers were coded using a 5-point Likert-scale, responses ranged from 1 = not at all to 5 = always. Thus, higher scores on the scale indicated that respondents had a higher level of depression.

### **Analysis Plan**

Using a data set, *A Study on the Prediction Factors of Youth Suicide* (Lee, 2010), this study conducted data analyses in the following series of steps. The first step in the analysis involved the descriptive statistics (i.e., mean, standard deviation, skewness, and kurtosis) to determine the normality of the observed measures. Secondly, bivariate statistical analysis was conducted to show that those observed measures shared suitable levels of variation. Third, to assess the measurement model, CFA (Confirmatory Factor Analysis) was conducted to examine the measurement qualities, using Amos 22.0. CFA is able to confirm that the observed variables indicate the latent variables. Next, this study examined a structural model (SM) with the goodness-of-fit of the model and tests of hypotheses. Regarding the goodness-of-fit, this study used several fit indices, the chi-square ( $\chi^2$ ) statistic, the comparative fit index (CFI), the root mean squared error of approximation (RMSEA), and the standardized root mean of the residual (SRMR). Particularly, this study used the following criteria for the goodness-of-fit: CFI > .95, RMSEA < .08, and SRMR < .05 (Hu & Bentler, 1999; Kline, 2016).

## RESULTS

### Descriptive Statistics

In Table 1, this study combines several descriptive statistics as the first step, such as mean, standard deviation (SD), range, skewness, and kurtosis. These provide information about the distribution of the data. No observed measures in this study had any problems of normality, meeting Kline's (2016) thresholds (skewness -3 to 3 and kurtosis -7 to 7). In addition, as seen in Table 1, there were not many missing cases. A half of measures had no missing cases and others had less than 1% of missing cases. Only the measure of religion had 7 missing cases (1.8%).

Table 1. Sample Descriptive Statistics of Observed Measures

Variables		Valid N	Mean	SD	Range	Skewness	Kurtosis	
Negative Relationship with Friends (NFR)	My friends do not like me.	NFR1	399	2.34	.88	1-5	.20	.09
	My friends do not listen to my thoughts and comments well	NFR2	399	2.21	.86	1-5	.59	.51
	My friends do not help me.	NFR3	397	2.22	.88	1-5	.65	.66
	I have no friend who can cheer me up when I am in trouble.	NFR4	398	2.04	.83	1-5	.63	.51
	Friends understand me.	NFR5	397	2.29	.87	1-5	.51	.43
Negative Relationship with Teachers (NT)	I do not get along with my teacher.	NT1	398	2.95	.95	1-5	.05	.13
	My teacher is not interested in me.	NT2	398	2.84	.91	1-5	.25	.56
	My teacher does not help me when I ask for help.	NT3	399	2.56	.93	1-5	.48	.55
	My teacher does not encourage me when I have a trouble.	NT4	399	2.80	.93	1-5	.29	.39
Negative Relationship with Family (NFA)	My family does not like to do something together.	NFA1	398	3.03	1.07	1-5	-.09	-.42
	My family does not like to spend leisure time together.	NFA2	399	2.85	1.13	1-5	.04	-.74
	My family is not familiar with each other.	NFA3	399	2.32	1.04	1-5	.45	-.39
	My family does not share activities together.	NFA4	399	2.80	1.07	1-5	.10	-.45
	My family does not consult with each other when deciding to work.	NFA5	399	3.03	1.08	1-5	.03	-.45
Depression (DEP)	I am sad and depressed.	DEP1	397	2.65	1.25	1-5	.28	-.96
	I am not interested in anything.	DEP2	397	2.23	1.12	1-5	.72	-.22
	Everything in my life is tough.	DEP3	396	2.55	1.19	1-5	.42	-.66
	I consider myself useless to others.	DEP4	398	2.03	1.08	1-5	.99	.50
Suicidal Ideation (SI)	I have been thinking about suicide.	SI1	399	2.04	1.13	1-5	.78	-.25
	I have recently thought of wanting to die.	SI2	397	1.81	1.11	1-5	1.27	.76
	I have said to someone that I want suicide.	SI3	399	1.66	1.04	1-5	1.52	1.47
	I have ever thought that my life would end up killing myself.	SI4	399	1.62	1.02	1-5	1.71	2.26

Note. N=399

### **Bivariate Statistics**

The second step was the performance of a bivariate correlation analysis, indicating that there were no potential problems that measures would be collinear. The strongest correlation coefficient ( $r = .83$ ,  $p < .01$ ) was between “I have been thinking about suicide” (SI1) and “I have recently thought of wanting to die” (SI2). These measures shared much variation so that they would be collinear. However, we retained the measures because of their relevance to our measurement of suicidal ideation. Regarding other correlation coefficients, detailed information is presented in Table 2.

Table 2. Correlation Matrix of Observed Measures

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1.NFR1	-																					
2.NFR2	.67**	-																				
3.NFR3	.62**	.74**	-																			
4.NFR4	.58**	.60**	.68**	-																		
5.NFR5	.62**	.68**	.70**	.72**	-																	
6.NTI	.35**	.30**	.31**	.33**	.40**	-																
7.NT2	.26**	.20**	.19**	.20**	.24**	.54**	-															
8.NT3	.24**	.23**	.22**	.18**	.20**	.47**	.63**	-														
9.NT4	.27**	.22**	.25**	.28**	.30**	.55**	.62**	.76**	-													
10.NFA1	.15**	.16**	.27**	.14**	.20**	.22**	.11**	.14**	.23**	-												
11.NFA2	.20**	.22**	.24**	.21**	.27**	.21**	.19**	.14**	.22**	.71**	-											
12.NFA3	.23**	.24**	.31**	.22**	.28**	.16**	.14**	.24**	.23**	.58**	.60**	-										
13.NFA4	.24**	.19**	.26**	.16**	.26**	.29**	.22**	.24**	.25**	.60**	.63**	.57**	-									
14.NFA5	.21**	.21**	.33**	.20**	.24**	.24**	.25**	.27**	.30**	.56**	.60**	.53**	.61**	-								
15.DEP1	.26**	.28**	.26**	.14**	.23**	.16**	.17**	.21**	.18**	.21**	.21**	.33**	.25**	.19**	-							
16.DEP2	.27**	.31**	.30**	.21**	.24**	.19**	.16**	.24**	.23**	.18**	.21**	.30**	.27**	.22**	.63**	-						
17.DEP3	.30**	.27**	.28**	.19**	.28**	.17**	.18**	.19**	.18**	.20**	.22**	.28**	.26**	.23**	.63**	.67**	-					
18.DEP4	.32**	.30**	.31**	.23**	.29**	.13**	.22**	.24**	.20**	.25**	.21**	.36**	.29**	.24**	.54**	.63**	.64**	-				
19.SI1	.20**	.17**	.19**	.09**	.14**	.16**	.23**	.31**	.26**	.28**	.22**	.34**	.31**	.27**	.54**	.43**	.48**	.53**	-			
20.SI2	.22**	.21**	.22**	.08**	.14**	.16**	.27**	.30**	.23**	.21**	.18**	.31**	.29**	.27**	.49**	.43**	.54**	.56**	.83**	-		
21.SI3	.16**	.14**	.15**	.05**	.09**	.09**	.13**	.23**	.17**	.17**	.10**	.25**	.20**	.17**	.45**	.36**	.42**	.45**	.72**	.72**	-	
22.SI4	.22**	.23**	.24**	.13**	.22**	.15**	.24**	.31**	.29**	.17**	.15**	.27**	.23**	.18**	.48**	.43**	.47**	.53**	.72**	.76**	.69**	-

Note. \*p<.05, \*\*p<.01. NFR=negative relationship with friends, NT=negative relationship with teachers, NFA=negative relationship with family, DEP=depression, SI=suicidal ideation, GEN=gender, AGE=age, REL=religion, FS=family structure, FI=family income

## CFA

Using 22 items and potentially 5 latent measures—as presented in Table 3, CFA was conducted. It was to determine the model fits of CFA and the significance of factor loadings. Although  $\chi^2$  was significant ( $\chi^2 = 427.43$ ,  $df = 199$ ,  $p < .01$ ), other fit statistics indicated that this measurement model fit the data satisfactorily (CFI = .96, RMSEA = .05, and SRMR = .05) (see the criteria of the model fits above). Table 3 also indicates that the factor loadings were all statistically significant ( $\lambda > .50$ ; Kline, 2016). That is, all observed measures were statistically significant to explain their latent variables. In addition, all composite reliabilities (analogous to coefficient alpha) of latent variables were deemed to excellent (above .80), as meaning that the consistency of the indicators in measuring respective latent variables (Raykov, 1997). Overall, these results indicated that proper levels of reliability and convergent and discriminant validity were present with these data.

Table 3. Measurement Model

Latent Variables	Observed Measures	Factor Loading		
Negative Relationship with Friends	My friends do not like me.	.76**		
	My friends do not listen to my thoughts and comments well	.83**		
	My friends do not help me.	.86**		
	I have no friend who can cheer me up when I am in trouble.	.80**		
	Friends understand me.	.84**		
Negative Relationship with Teachers	I do not get along with my teacher.	.60**		
	My teacher is not interested in me.	.73**		
	My teacher does not help me when I ask for help.	.86**		
	My teacher does not encourage me when I have a trouble.	.88**		
Negative Relationship with Family	My family does not like to do something together.	.80**		
	My family does not like to spend leisure time together.	.83**		
	My family is not familiar with each other.	.73**		
	My family does not share activities together.	.78**		
Depression	My family does not consult with each other when deciding to work.	.73**		
	I am sad and depressed.	.76**		
	I am not interested in anything.	.79**		
	Everything in my life is tough.	.83**		
Suicidal Ideation	I consider myself useless to others.	.78**		
	I have been thinking about suicide.	.89**		
	I have recently thought of wanting to die.	.91**		
	I have said to someone that I want suicide.	.80**		
	I have ever thought that my life would end up killing myself.	.84**		
$\chi^2$	$df$	CFI	RMSEA	SRMR
427.43**	199	.97	.05	.05

Note. \* $p < .05$ , \*\* $p < .01$

## SM

In the last step, a structural model (SM) was examined in order to test all of the seven hypotheses in this study (see Figure 1). We examined the fit between model and the data first. Based on the criteria aforementioned, the Korean data were appropriate to explain the research model ( $\chi^2 = 427.43$ ,  $p < .01$ , CFI = .96, RMSEA = .05, and SRMR = .05). Since the goodness-of-fit of the research model was verified, the hypotheses of this model would be examined next. Regarding direct effects of interpersonal relationships on adolescents' suicidal ideation, negative relationships with teachers (H2:  $\beta = .14$ ,  $p < .01$ ) and family (H3:  $\beta = .12$ ,  $p < .05$ ) increased it, in contrast, negative relationships with friends decreased it (H1:  $\beta = -.13$ ,  $p < .01$ ). This unexpected direction will be discussed later. Moreover, while the effect of negative relationships with teachers did not influence adolescents' depression level (H5:  $\beta = .12$ ,  $p = .056$ ), other negative relationships had a significant influence on their depression: negative relationships with friends (H4:  $\beta = .25$ ,  $p < .001$ ) and family (H6:  $\beta = .24$ ,  $p < .001$ ). However, depression level was the highest predictor of suicidal ideation in Model 3 (H7:  $\beta = .67$ ,  $p < .001$ ). In particular, the indirect effects of depression between interpersonal relationships and suicidal ideation were high and significant. As seen in Table 5, even though the negative relationships with friends decreased suicidal ideation (standardized direct effect [SDE] =  $-.12$ ), the mediation effect of depression was high (standardized indirect effect [SIE] =  $.17$ ), and eventually, suicidal ideation was increased through depression (standardized total effect [STE] =  $.05$ ). In other interpersonal relationships, the mediation effect of depression was crucial to account for adolescents' suicidal ideation (teachers: STE =  $.22$ , SDE =  $.15$ , and SIE =  $.07$ ; and family: STE =  $.25$ , SDE =  $.15$ , and SIE =  $.10$ ).

Table 4. Structural Model Results

Measures	Research Model			
	Coef.	SE	<i>p</i>	$\beta$
Negative Relationships with Friends → Suicidal Ideation	-.17	.07	.009	-.13
Negative Relationships with Teachers → Suicidal Ideation	.17	.06	.003	.14
Negative Relationships with Family → Suicidal Ideation	.15	.06	.014	.12
Negative Relationships with Friends → Depression	.29	.06	***	.25
Negative Relationships with Teachers → Depression	.12	.06	.056	.12
Negative Relationships with Family → Depression	.26	.07	***	.24
Depression → Suicidal Ideation	.78	.07	***	.67
$\chi^2$	427.43**			
<i>df</i>	199			
CFI	.97			
RMSEA	.05			
SRMR	.05			

Note. \**p*<.05, \*\**p*<.01, \*\*\**p*<.01

Table 5. Direct/ Indirect and Total Standardized Effects of Variables

I.V.	M.V.	D.V.	Direct	Indirect	Total Effect
Negative relationships with Friends	Depression	Suicidal Ideation	-.16 (-.12)	.23 (.17)	.07 (.05)
Negative relationships with Teachers			.18 (.15)	.09 (.07)	.27 (.22)
Negative relationships with Family			.13 (.10)	.18 (.15)	.32 (.25)

Note. Parentheses are standardized effects. I.V.=independent variable, M.V.=mediating variable, D.V.=dependent variable

## DISCUSSION

Numerous studies have proclaimed that suicide is a crucial cause of adolescents' mortality (CDC, 2015; Heron, 2016; Värnik, 2012; Wasserman et al., 2005; WHO, 2014). In particular, South Korea has had in the highest global suicide rate and its rates have been gradually increasing (CDC, 2015; WHO, 2014). In spite of this ranking across the world, the causality of suicide have rarely been examined in South Korea. A few studies attempted to explain causality of suicide amongst Korean youth using concepts of negative interpersonal relationships, depression symptoms, and suicidal ideation (Bae et al., 2015; Chaung et al., 2016; Kim et al., 2012; Lee et al., 2010; Woo & Kim, 2011). Even though these studies did not use Agnew's (1992) General Strain Theory (GST), findings were consistent with GST propositions. That is, negative interpersonal relationships significantly increased students' suicidal ideation with a mediation effect of depression. Furthermore, many studies in literature have shown the applicability of GST's theoretical principles to suicidal ideation by interpersonal relationship (e.g., Baek et al., 2017; Bertolote & Fleischmann, 2002; Button, 2015; Dube et al., 2001; Klomek et al., 2011; Sigfusdottir et al., 2013; Walls et al., 2007).

Consistent with findings of numerous previous studies (e.g., Agnew & Brezina, 1997; Button, 2015; Carson, et al., 2009; Klomek et al., 2011; Lee et al., 2010; Walls et al., 2007), this study supported Agnew's (1992) GST. Negative interpersonal relationships with others increased adolescents' depression and suicidal ideation. In addition, adolescents' depression level was the principal mediation between negative interpersonal relationships with others and their suicidal ideation in this study. These results were consistent with Korean studies, in that interpersonal relationships and depression symptoms were strongly associated with suicidal ideation (Kim et al., 2012; Woo & Kim, 2011; Woo et al., 2010). Unlike these Korean studies, by applying GST to Korean adolescents, this study found the mediation effect of depression between interpersonal relationships and suicidal ideation. That is, Korean adolescents with a higher level of depression (negative emotion) generated by negative stimuli (negative interpersonal relationships) may select suicide as an antisocial mean of escaping the negative emotion.

On the other hand, negative relationships with friends significantly decreased adolescents' suicidal ideation. Although this result was not expected by the theory, previous studies have shown empirical evidence about this occurrence (e.g., Bearman & Moody, 2004; Davaji, Valizadeh, & Nikamal, 2010; Liu, 2006). Bearman and Moody (2004) accounted for adolescents' suicidal thoughts using the number of friends who had an experience of suicide attempts. They found that the friends' suicide attempts substantially increased adolescents' thinking about suicide (Bearman & Moody, 2004). In other words, depending on characteristics of friends, the likelihood of suicidal ideation could be different. Additionally, depending on the level of friends' closeness, adolescents might select different actions (e.g., imitation or refusal). Thus, future studies need to combine more control variables regarding friends' aspects. Overall, the finding from the analysis of mediation effects (see Table 5) showed the relationship between friends, depression, and suicidal ideation. While negative relationships with friends directly decreased adolescents' suicidal ideation, the relationship with friends indirectly increased suicidal ideation through depression. In other words, suicidal ideation was ascended when adolescents had a negative relationship with friends.

In addition, Davaji and colleagues' (2010) study provided a possible explanation why adolescents' suicidal ideation would be different depending on relationships with others. This study found that students' suicidal ideation was significantly different depending on attachment styles (see Ainsworth and Bowlby's attachment theory [1991]) with other people; while avoidant and ambivalent attachment styles increased suicidal ideation, secure attachment style decreased it (Davaji et al., 2010). In particular, one well-known criminological theory, social learning theory (Akers [1985, 1998]), could explain the result that negative relationships with friends significantly decreased adolescents' suicidal ideation. According to the theory, the delinquent values and beliefs that arise from association with deviant peers cause the likelihood of engaging in such behaviors to rise (Akers, 1998). Thus, when adolescents do not have an intimate friend with suicidal ideation, their suicidal ideation will decrease.

Despite meaningful findings, this study has a few limitations. First, due to the cross-sectional nature of the data, temporal effects could be debated. That is, some situation will be possible to occur; for example, after increasing depression level, students' relationship with others will be worse. In addition, people may

keep away from a suicidal person. Thus, the suicidal person does not have any good relationships with others. The second issue is the measure of negative emotion. Like Jang's (2007) findings, there are gender differences depending on types of negative emotion (anger vs. depression). However, original data used in this study do not combine other types of negative emotion. In order to account for gender differences of GST's propositions, other mediations will be required to examine. Lastly, this study did not include all three types of strain suggested by Agnew (1992). It will be possible that other types of strain influence suicidal ideation more. Future studies of suicidal ideation need to contain these variables. In spite of these problems, we find support for GST's proposition that negative stimulation (negative interpersonal relationships), increased the likelihood of negative emotion (depression), which further increased the likelihood of suicidal ideation among adolescents. In addition, this study would contribute as an examination that applies GST's assumptions to Korean sample aged 12 and 21. Thus, the resolution in a relationship with others can offer ways to reduce adolescents' suicidal ideation; eventually, to prevent suicide among Korean youths.

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# Breaking the Cycle of Juvenile Justice: A Review of Juvenile Mental Health Courts

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## Abstract

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Juvenile mental health courts (JMHCs) are problem-solving courts devoted to serving youth offenders with mental illnesses. This current study offers a comprehensive review of JMHCs, linking the establishment of JMHCs to a broader historical context. Recent U.S. Supreme Court decisions (*Roper v. Simons*, 2005; *Graham v. Florida*, 2011; *Miller v. Alabama*, 2012; *Montgomery v. Louisiana*, 2016) and a brief history of reform in juvenile justice are discussed to highlight the context in which JMHCs emerged. The implementation of JMHCs and their empirical status, as well as their potential problems, are summarized. After reviewing empirical evidence of mental health courts (MHCs), the current research concludes that the appearance of JMHCs signals the possibility of breaking the cycle of juvenile justice, which has been often guided by the public sentiment.

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## Keywords

Juvenile Mental Health Courts, *Montgomery v. Louisiana*, 2016

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## INTRODUCTION

On January 25, 2016, President Obama signed an executive order that banned solitary confinement of juvenile inmates in federal prisons (Eilperin, 2016). This announcement was significant because it followed the U.S. Supreme Court decision in *Montgomery v. Louisiana* (2016). The *Montgomery* decision settled the question regarding the retroactivity of *Miller v. Alabama* (2012), which addressed mandatory life without parole sentences. The current trends involving the landmark decisions reflect that juveniles are fundamentally different from adults, in part because their brains are not fully developed (The Sentencing Project, 2016). Current findings from collaborations between law and neuroscience fields highlight how different juveniles' brains are, thereby advocating for changes in the way juveniles are perceived in applications of law (Bonnie & Scott, 2013; Casey & Caudle, 2013; Steinberg, 2008). That is, juveniles are not as culpable as adults are, and they are susceptible to external factors, such as peer pressure (*Roper v. Simmons*, 2005).

In this regard, the ongoing enhancement and expansion of juvenile mental health courts (JMHC) are noteworthy; and the change aligns with the U.S. Supreme Court decisions. Because juveniles are characterized by a "lack of maturity and an underdeveloped sense of responsibility" (*Roper v. Simmons*, 2005, p. 569; see also *Miller v. Alabama*, 2012), it is difficult to ignore juveniles who have mental disorders in the justice system. Studies have reported that the percentage of juveniles in the justice system (e.g., correctional facilities and juvenile detention) suffering from mental disorders is estimated to be 65% to 70% across the U.S. (Shufelt & Coccozza, 2006; Wasserman, Ko, & McReynolds, 2004). While there are no statistics about national recidivism rates for youth offenders in the U.S., studies based on states show that the average rearrest rate for juveniles within one year of release from an institution is 55 percent (Snyder & Sickmund, 2006). The high proportion of juveniles with mental disorders in the justice system may account for high recidivism rates among youth offenders. Unfortunately, evidence indicates that there are not proper diagnostic and treatment services available in juvenile facilities (Callahan, Coccozza, Steadman, & Tillman, 2012). Additionally, many adolescents have been placed in juvenile facilities for minor and nonviolent offenses just because there have been insufficient

community-based services, making far-reaching collateral consequences for their future (General Accounting Office, 2003).

We have noted that because there is a lack of mental health services for youth in the juvenile system in general and in juvenile facilities (Snyder & Sickmund, 2006), there should be a system that can provide mental health services for the best interests of adolescents with mental health needs. JMHCs can serve as an alternative to the traditional juvenile justice approach by offering rehabilitation focused community-based mental health programs. Despite its importance, there have been only a few studies that are available owing to the recent adaptation to JMHCs from adult mental health courts (AMHCs) (Behnken, Bort, & Borbon, 2017; Callahan et al., 2012; Davis, Peterson-Badali, Weagant, & Skilling, 2015; Heretick & Russell, 2013). While the prospect of JMHCs is promising considering the findings from AMHCs, the juvenile justice policy has been often driven not only by logical reasoning such as the effectiveness of policy but also by the emotional whims that swing radically in reaction to media (Bernard & Kurlychek, 2010; Feld, 2013). Bernard and Kurlychek (2010) observed that juvenile justice policies are often following a cyclical pattern between lenient and harsh punishments according to how justice officials and the general public perceive juvenile crime. Based on this observation, Benard and Kurlychek coined the term, the cycle of juvenile justice.

This study aims to review JMHCs and how the advent of JMHCs fits the cycle of justice. In the next section, the U.S. Supreme Court decisions and a brief history of reform in juvenile justice are discussed to connect the establishment of JMHCs to a broader historical context. Then, the implementation of JMHCs and their empirical status are presented. Additionally, the potential problems of JMHCs are examined. After reviewing empirical evidence of mental health courts (MHCs), the current research concludes that the appearance of JMHCs signals the possibility of breaking the cycle of juvenile justice.

## THE TIDE OF REFORM IN JUVENILE JUSTICE BEFORE ROPER V. SIMMONS

The American legal system dealt with juveniles who committed crimes as adult offenders before the end of the 19th century (Feld, 2013). This paradigm faced challenges from environmental factors like industrialization, urbanization, and population growth (Bernard & Kurlychek, 2010). The ideological shift in the explanation of crime from the classical school, which was based on the rationality of human beings, to positive criminology that stressed innate disposition, also contributed to the new paradigm to solve juvenile delinquency issues (Feld, 2013). The role of juvenile court was to provide an individually tailored treatment to meet juveniles' specific needs (Frost-Tift, 2013). The purpose of juvenile courts was different from traditional courts; these courts highlighted treatment for rehabilitation of juvenile delinquents. Juvenile courts used different terms in trials from those in the criminal court to avoid "a sense of fault, blame, accusation, guilt, and punishment" (Bernard & Kurlychek, 2010, p. 78). Instead, terms that were used in juvenile courts have symbolized a caring and a helping voice.

Procedural rights in juvenile courts were also dissimilar to those in criminal courts (Feld, 2013; Merlo, Benekos, & Champion, 2016). For instance, proceedings were confidential in juvenile courts, and they had no right to have a lawyer and jury court as well as public trial. Along with restraints, the rules of evidence were employed differently from criminal courts. While trials at criminal courts were held based on the probable cause, trials at juvenile courts were more like civil courts that are based on reasonable doubt (Feld, 2013).

A new tide of reform started followed by a series of court decisions that applied the same procedural protection and due process to juveniles as criminal courts (Frost-Tift, 2013; Shitama, 2013). This shift was closely related to the failures of the juvenile court. Regardless of original intent, abuses of discretion in juvenile court were pointed out (Merlo, Benekos, & Cook, 1997). After *In re Gault* (1967), adjudication hearings incorporated many elements of the adult criminal justice system (Bernard & Kurlychek, 2010).

The shift that intended to protect juveniles by providing rights produced unpredicted results. When juvenile crimes increased in the 1990s, a dramatic shift occurred. The guaranteed rights of juveniles led juvenile courts to punitive

decisions, and more juveniles were tried as adult offenders (Shitama, 2013). Using the concept of “amenability to treatment” as justification (Fagan, 2002, p. 11), more juvenile waiver decisions were made (Griffin, Addie, Adams, & Firestine, 2011). Simultaneously, most states passed punitive laws that enhanced sentencing options for juvenile courts and modified confidentiality provisions that characterized the traditional court (Snyder & Sickmund, 2006). Similarly, diverse ways to waive juveniles to adult courts and to relinquish the rights of juveniles surfaced (Griffin et al., 2011). The public also asked for harsher punishment against juveniles. This trend was accelerated as media portrayals of juvenile delinquents prevailed (Benekos & Merlo, 2006).

## THE TIDE OF REFORM IN JUVENILE JUSTICE AFTER ROPER V. SIMMONS

The turn of the punitive trend started from the narrower issue of the juvenile justice system. The U.S. Supreme Court called the death penalty and juvenile life imprisonment without parole into question (Sickmund & Puzanchera, 2014). The landmark decisions made during the twenty-first century have enforced the constitutional conditions for imposing sentences on juveniles (*Roper v. Simmons*, 2005; *Graham v. Florida*, 2010; *Miller v. Alabama*, 2012; *Montgomery v. Louisiana*, 2016). *Roper v. Simmons* (2005) was a prelude to this change. A seventeen-year-old boy, *Simmons*, was sentenced to the death penalty for the murder that he committed. The landmark court decision in *Atkins v. Virginia* (2002), however, provided the basis for *Simmons* to file an appeal. In *Atkins v. Virginia* (2002), the U.S. Supreme Court ruled that punishing persons with intellectual disabilities is unconstitutional.

*Simmons* used the same logic from *Atkins* arguing that the immaturity of juveniles reduces their culpability and increases their susceptibility to influence from external factors (The Sentencing Project, 2016). Furthermore, the personalities of juveniles are assumed not fully formed, but somewhat transitory (Bernard & Kurlychek, 2010). Accordingly, blameworthiness for juveniles, which originated from responsibility, should be diminished. The U.S. Supreme Court ruled that the death penalty is a disproportionate punishment for juveniles (*Roper v. Simmons*,

2005). This case established that the guiding philosophy of law should prioritize juveniles' inherent flaws.

The U.S. Supreme Court ruling in *Graham v. Florida* (2010) confirmed the consistent tendency in key decisions reflecting biological differences in juveniles. In writing for the majority, Justice Kennedy stated that "the concept of proportionality is central to the Eighth Amendment" (*Graham v. Florida*, 2010, p. 2021). In *Miller v. Alabama* (2012), Justice Kagan wrote once again that characteristics that are derived from being juveniles diminish their culpability; thereby, the status of being a juvenile should be an important mitigating factor in deciding the sentence. *Montgomery v. Louisiana* (2016) confirmed that the direction of the juvenile justice system should be founded on their differences from adults. These decisions imply that there should not be discordance between responsibility and the severity of punishment. The Court's decision in *Miller v. Alabama* (2012) explicitly mentioned that juveniles should be provided an "individualized consideration before sentencing a juvenile to life imprisonment without possibility of parole" (p. 2470).

The tendency in recent Supreme Court cases can be connected to the prospect of JMHCs in three ways. First, the fact that the U.S. Supreme Court has consulted psychological science to address legal questions involving adolescent maturity signals that the U.S. criminal justice system has been moving toward embracing the findings from psychology (Icenogle et al., 2019). The juvenile justice system has been marked by the cyclical patterns between lenient and harsh punishment, and public perceptions, not science, have often guided these patterns. However, the recent U.S. Supreme Court rulings involving legal status of juveniles suggest that psychological evidence related to the functional capacities of juveniles (e.g., mental health issues) can be taken more seriously at various stages of criminal justice, which coincides with the advent of juvenile mental health courts (Underwood & Washington, 2016). Second, if juveniles are considered as less culpable, punishing adolescents as if they are adults is not just. If juveniles are different from adults, it demands much attention to juveniles with mental illness (*Miller v. Alabama*, 2012). The decision from *Roper v. Simmons* (2005) leaves room for the correction of juveniles with mental disorders because this decision is based on the belief that characteristics of juveniles can change. Third, evidence from neuroscience that was included in the majority opinion in *Miller v. Alabama*

(2012) suggests that knowledge from neuroscience and developmental psychology should be considered to rehabilitate juvenile delinquents.

The trend of using psychological research in the U.S. Supreme Court indicates that lawmakers and policymakers are more willing to rely on science to guide and make their decisions (Steinberg, 2017). Simultaneously, scholars have provided a mountain of evidence that youth offenders are more likely to suffer from mental health disorders compared to general populations and adult offenders (Gilbert, Grande, Hallman, & Underwood, 2015; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002). Therefore, the discussions of recent US Supreme Court cases are important to understand the context in which juvenile mental health courts appeared, showing that scientists have weighted in guiding juvenile justice policies. Juvenile mental health courts will be viewed as a key juvenile justice policy in light of accumulating evidence involving juvenile offenders with mental disorders.

## THE ADVENT OF THERAPEUTIC JURISPRUDENCE

The reasoning in *Miller v. Alabama* (2012) indicated that juveniles can commit crimes because of malfunction in the cognitive control system that governs and exercises the executive function (Steinberg, 2008). The executive function is responsible for deliberative thinking and impulse control, which can cause crime when it performs poorly. In discussing *Miller*, even the dissenting justices admitted that juveniles can be immature, reckless, and impetuous (*Miller v. Alabama*, 2012). The recognition of adolescents' limited brain functioning emphasizes the importance of neuroscience and developmental science to juvenile cases. Our understanding of the relationship between juveniles' brain development and mental health issues should be further investigated, and the findings should be employed in treatment. The mental health needs in the juvenile justice system has been reported as an urgent issue to address (Hoeve, McReynolds, Wasserman, & McMillan, 2013); 65% of incarcerated juveniles and 60% of detained juveniles were documented to exhibit one or more mental disorders, and also met the criteria for one or more mental disorders (Wasserman, McReynolds, Schwalbe, Keating, & Jones, 2010).

One recent meta-analysis shows that about 13% of children and adolescents are suffering from mental disorders around the world (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015), and this number peaks at 65% when it comes to incarcerated juveniles in the U.S. (Wasserman et al., 2010). These figures illuminate why criminal justice professionals started to look for alternatives to incarceration (Shufelt & Coccozza, 2006; Wasserman et al., 2004). MHCs are alternatives that reflect therapeutic jurisprudence (Slate, Buffington-Vollum, & Johnson, 2013). Therapeutic jurisprudence focuses on understanding therapeutic and anti-therapeutic consequences from substantive law, procedural law, and stakeholders (Winick & Wexler, 2003). This movement started from introspection about the traditional criminal defense model (Winick, 1997). Unlike the traditional model, therapeutic jurisprudence principles avoid “finding fault, assessing blame,” but rather they underline the “consideration for the consequences of decisions rendered by the justice system” (Slate et al., 2013, p. 384).

Therapeutic jurisprudence is the foundation of MHCs, avoiding punishment and the deterrence model so that rehabilitation of the offenders and restoration of the harm can be maximized (Lanni, 2005; Strong, Rantala, & Kyckelhahn, 2016). MHCs are specifically designed problem-solving courts for individuals with mental illnesses (Wolff, 2018). According to Goodale, Callahan, and Steadman (2013), MHCs have three core characteristics: (1) “a problem-solving orientation,” (2) “interdisciplinary collaboration,” and (3) “a focus on accountability” (p. 298). A rapidly increasing number of AMHCs and JMHCs demonstrate the paradigm shift from traditional jurisprudence to therapeutic jurisprudence.

In sum, the expansion of JMHCs is aligned with the signs of breaking the cycle of juvenile justice. First, the criminal justice system is gradually shifted from traditional jurisprudence to therapeutic jurisprudence. Second, the U.S. Supreme landmark decisions in juvenile justice allude to the importance of understanding juvenile mental health (*Roper v. Simons*, 2005; *Graham v. Florida*, 2010; *Miller v. Alabama*, 2012; *Montgomery v. Louisiana*, 2016). Finally, the evidence from empirical studies also indicates the efficacy of JMHCs in reducing recidivism and the cost of the system (Behnken, Arredondo, & Packman, 2009; Kubiak, Roddy, Comartin, & Tillander, 2015).

The establishment of JMHCs reflects major changes in the social understanding of mental health issues or capacities rather than a temporary or

cyclical phenomenon. Notable changes in criminal justice policy can support this argument. For instance, the Patient Protection and Affordable Care Act (ACA) helps individuals with a severe mental illness who are released from jails and who are eligible for Medicaid. Simultaneously, recent legislation of the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act (MHPAEA) ensures that mental illness is no longer less covered than physical illness (McGinty et al., 2015). These two acts allow those who have a mental illness to gain more accessible mental health services. A series of enactments of the legislation suggests that the public has better awareness concerning mental health issues.

## THE OPERATION OF JMHCs AND THEIR EMPIRICAL STATUS

The tendency toward non-adversarial and rehabilitation-oriented juvenile court is not surprising given the tide of juvenile justice reform. This trend corresponds with empirical findings that demonstrate the ineffectiveness of the traditional approach to those with mental illness. For instance, a Miami-Dade County, Florida judge reported that 97 persons with a diagnosis of schizophrenia were arrested about 2,200 times and spent approximately 27,000 days in jail, which cost \$13 million during only five years (as cited in Slate et al., 2013, p. 271).

Studies about JMHCs have not been fully developed (Behnken et al., 2017), and little is known about their actual operation due to the recent adjustment for juveniles (Davis et al., 2015). It is thought that York County, Pennsylvania, first initiated the JMHC in 1998 (Callahan et al., 2012). Approximately 40 JMHCs were established from 2000 to 2010, and some JMHCs were discontinued (Callahan et al., 2012). The advent of mental health courts for adults (AMHCs) preceded JMHCs by approximately ten years. Therefore, the empirical findings of JMHCs are limited in comparison to AMHCs (Behnken et al., 2009; Heretick & Russell, 2013). When a national survey was conducted in 2009-2010, 15 states were operating JMHCs (Callahan et al., 2012). On the other hand, AMHCs are operating in nearly every state (Goodale et al., 2013) and that this number reaches over 300 (Strong et al., 2016).

JMHCs share the same features with AMHCs: (1) separate dockets, (2)

community supervision to check compliance with court order, (3) judicial review to keep track of the progress of participants, (4) and an interdisciplinary team that monitors cases and makes recommendations to the judge (Callahan et al., 2012). The general description of JMHCs reveals that there are diverse pathways to referrals to JMHCs, including defense lawyers, attorneys, bail programs, probation officers, doctors, court workers, and judges (Davis et al., 2015; Heretick & Russell, 2013). Although it is difficult to find uniform procedures in JMHCs, in general, once juveniles are referred, mental health court workers conduct the screening process using a diagnostic tool (e.g., MAYSI-2). Following the results, court workers make a recommendation about whether juveniles are eligible for the program. A judicial determination is then made whether juveniles seek treatment and have mental health needs. Upon considering these mental health factors and other variables (e.g., the seriousness of the offense, victim impact), juveniles are sent to diversion or sentencing (Davis, Peterson-Badali, & Skilling, 2016; Slate et al., 2013).

Once juveniles are accepted into programs, court dates are assigned, and JMHCs workers develop a treatment plan that can match juveniles to community-based services (Davis et al., 2015). Multi-disciplinary agencies are engaged in treatment services. As juveniles receive treatment services, case monitoring is ongoing. JMHCs workers update the progress of juveniles to the judicial authority. After completion of the treatment, further case tracking and dispositions are followed. Depending on the progress that juveniles make, different dispositions can be imposed. Specifically, some juveniles can have charges dismissed, while some receive charge suspension; some are sentenced to probation.

JMHCs often incorporate empirically supported therapies that are found to be effective in reducing recidivism rates in youth offenders, including Multisystemic Therapy (MST) (Henggeler, 1999; Jonson & Cullen, 2011) and Functional Family Therapy (FFT) (Alexander, Pugh, & Parsons, 1998; Skowrya & Coccozza, 2007). Briefly, Multisystemic Therapy is based on the assumption that human development is embedded in multiple systems, such as home, school, and neighborhood contexts (Henggeler, 1999). MST clinicians diagnose the risk factors that each of multiple systems presents to troubled youth (e.g., poor relationship with parents, and conflict with teachers). They then design and provide interventions or therapy (e.g., parent training or cognitive behavioral therapy based

on the unique needs of youth at risk. FFT focuses more on parental management interventions to reduce the offending of youth (Alexander et al., 1998). The FFT therapist engages at-risk families and antisocial youth and focuses on improving poor parenting skills and negative communication patterns. At-risk families learn how to listen and interact with each other, and adults in the family learn how to use praise, to monitor, and to intervene effectively. Because JMHCs target mentally disordered youth, they also consider therapeutic interventions for youth with mental illnesses, such as drug treatment, pharmacotherapy, and cognitive behavioral therapy (Ramirez, Andretta, Barnes, & Woodland, 2015).

JMHCs share many features with AMHCs, including use of a multidisciplinary approach, use of rewards and sanctions to elicit compliance, acceptance of participants with a mental disorder, use of treatment services, and the mission of preventing offenders with mental disorders from extensive involvement in the justice system (Callahan et al., 2012). However, JMHCs often have unique features that are designed to serve the specific needs of youth with mental disorders compared to AMHCs. These features include the use of a screening device for youth and the use of treatment programs to address youth mental health functioning. For instance, JMHCs use treatment programs involving schools (e.g., educational programs to improve academic achievement and reduce truancy) and families (e.g., family counseling for family functioning challenges).

The empirical status regarding the effectiveness of AMHCs seems robust (Honegger, 2015). Researchers have compared criminal offenders with mental illness who were assigned to MHCs to those who were sent to traditional courts (e.g., Anestis & Carbonell, 2014). Evaluation research based on different methodologies (random assignment of programs, follow-up study, and retrospective observational design) pointed to the reductions in violence among MHC clients (Anestis & Carbonell, 2014).

Using 18 experimental or quasi-experimental studies, Sarteschi, Vaughn, and Kim (2011) conducted a meta-analysis to evaluate the effectiveness of AMHCs. They reported that the aggregate effect size for recidivism outcome was moderate (Hedges's  $g$ , -.54), supporting the clinical effectiveness of AMHCs. A more recent evaluation based on 20 articles on MHCs also found a positive and statistically significant decrease in recidivism among MHC participants (Honegger, 2015). Additionally, Honegger's (2015) review showed that MHCs can be relevant to

participants' psychiatric functions.

Currently, only four peer-reviewed studies are available regarding the effectiveness of JMHCs (Behnken et al., 2009; Behnken et al., 2017; Heretick & Russell, 2013; Ramirez et al., 2015). First, Behnken et al. (2009) examined recidivism rates using 64 youth who entered the Court for the Individualized Treatment of Adolescents (CITA) in California Santa Clara County. They conducted t-tests to compare the mean number of offenses before youth participated in CITA and the mean number of offenses after youth enrolled in the program. The results indicated a reduction of arrests in a variety of offenses, including assault and battery, possession of dangerous weapons, making violent threats, theft, and vandalism. Second, Heretick and Russell (2013) used data from a sample of 61 youth who participated in a Colorado JMHC and from other groups of youth who were assigned to other forms of probation and diversion. In their research, recidivism was defined as new charges filed for offenses, including technical violations or new offenses. They compared recidivism rates between youth who completed JMHC and those who completed a different form of probation/diversion program and found that youth who completed the JMHC tended to show lower recidivism rates compared to those who completed other juvenile probation programs.

Third, Ramirez et al. (2015) studied a JMHC in the District of Columbia by comparing reconviction and rearrest rates of JMHC participants to youth who did not participate in JMHC but were supervised by probation officers. They employed a stratified random sampling to develop the control group and treatment group. The control group was clinically and legally similar to JMHC participants before treatment. Results indicated that JMHC youth were less likely to be rearrested and reconvicted compared to the control group. Importantly, youth who participated in the JMHC experienced a significant reduction of psychiatric symptoms after treatment. Lastly, Behnken et al. (2017) investigated whether youth who were adjudicated in the JMHC displayed lower recidivism rates after treatment using a sample of 63 youth on probation in Santa Clara County, California. The results showed that participation in the JMHC can reduce the chance of rearrest among mentally disordered juveniles. Importantly, reductions in recidivism were observed regardless of gender and racial/ethnic group.

In short, the findings from these studies appear consistent with the findings

from AMHCs. JMHCs significantly reduced the recidivism rate of juvenile delinquents who attended JMHCs (Behnken et al., 2009; Heretick & Russell, 2013; Ramirez et al., 2015), and this reduction in recidivism occurred while controlling for different race and gender (Behnken et al., 2017). The potential benefits of JMHCs were not confined to a reduction in recidivism and arrest. As Ramirez et al. (2015) showed, mentally disordered juveniles can experience improvement regarding psychiatric symptom severity from JMHCs. Cocozza and Shufelt (2006) described that there are five positive outcomes that can be acquired from JMHCs: (1) “leverage of court,” (2) “multi-disciplinary approach,” (3) “increased option,” (4) “monitoring strategies,” and (5) “increased awareness of the problem” (p. 4). Compliance from juveniles and their families following JMHC requirements can increase their willingness to participate in treatment services. Davis et al. (2015) found that participants in JMHCs used the treatment service more often than other youth.

While there is no cost-benefit analysis on JMHCs, considering the operation of JMHCs is equivalent to that of AMHCs, the findings from AMHCs can be instructive. The evidence on cost-effectiveness also favors MHCs over the traditional courts (Kubiak et al., 2015; Ridgely et al., 2007; Wolff, 2018). Although the instrumental consideration should not dictate juvenile justice policy (Sandel, 2009), cost savings from JMHCs can be a practical issue from the point of administrators’ and taxpayers’ viewpoints (Burriss, Breland-Noble, Webster, & Soto, 2011). According to the report from the RAND Corporation that conducted with the Allegheny County MHC in Pennsylvania, the fiscal impact of MHC turned out to be positive (Ridgely et al., 2007). The cost of traditional adjudication and processing was compared with the cost of MHC, including treatment service, the juvenile justice system, and subsidies. Ridgely et al. (2007) reported that even though initial investment can be costly, given the diminished jail costs, MHC is a much more cost-effective program. Kubiak et al. (2015) provide further support for MHC by focusing on the long-term cost saving from MHC. Washington State Institute for Public Policy (2016) estimated that for every tax dollar spent to pay for MHC, about 6 dollars is saved.

## The CONCERNS ASSOCIATED WITH JMHCs AND FURTHER DIRECTION FOR JMHCs

Several cautions and concerns around JMHCs are noteworthy. By discussing the concerns regarding JMHCs, the current study creates a further direction for juvenile justice policy. Some argue that although JMHCs highlight offenders more than offenses, classification of offenders according to types of offenses excludes some youth from eligibility (Callahan et al., 2012; Davis et al., 2015). It is important that JMHCs are open to juveniles who have mental health needs (i.e., Axis I disorders from DSM-IV); some juvenile offenders can benefit most from participation in the programs even though they are not eligible due to their type of offense.

The voluntariness of JMHCs has also been questioned. The decision to participate in JMHCs can be made “when the defendant is likely to be under considerable stress, having been arrested and taken into custody and perhaps having spent some time in a jail cell, often without treatment of any kind” (Seltzer, 2005, p. 574). Redlich, Hoover, Summers, and Steadman (2010) documented that the majority of enrolled MHC clients did not know their rights to participate before they enlisted voluntarily. Participants should be notified of potential outcomes if they fail to complete the programs and their rights in JMHCs to ensure the voluntariness of their decision (Callahan et al., 2012).

The limited functions of JMHCs have been pointed out (Slate et al., 2013). The court does not have the power to create new services (Boothroyd, Mercado, Poythress, Christy, & Petril, 2005). Instead of designing new programs, JMHC judges have to navigate available treatment services and make a final decision. It is critical for JMHC judges to learn what kinds of treatment programs are available. The screening process to participate in JMHCs should also be examined. Researchers have implemented the Massachusetts Youth Screening Instrument-2 (MAYSI-2) in juvenile detention centers and probation departments to examine the eligibility of juveniles for JMHCs (Skowrya & Coccozza, 2007). While the use of a standardized screening process is well documented from some JMHCs (Arredondo et al., 2001; Davis et al., 2015), there is no uniform protocol regarding screening instruments, and this can impede successful identification of

JMHC clients.

Scarce funding and the lack of accumulated data should be noted as concerns about JMHCs. The empirical studies about JMHCs are limited, and this can be, in part, due to the limited funding (Davis et al., 2015). Callahan et al. (2012) reported that funding sources of JMHCs are diverse and include state governments, local governments, Medicaid, the federal government, private insurance, grants, and program fees. Even though federal funding of the Mentally Ill Offender Treatment and Crime Reduction Act (MIOTCRA) has been increased and reauthorized since it was signed into law in 2004, the initial costs associated with JMHCs can be burdensome (Slate et al., 2013). Steadman (2005) estimated that it might take more than 18 months to confirm the positive outcomes from diversionary programs such as MHCs. Likewise, Slate et al. (2013) illustrated that the initial expenditures needed to establish MHCs might outpace the current total cost for incarcerated individuals with mental illnesses. The history of juvenile justice illustrates the cyclical and capricious shift related to political movements or sub-structural changes (Bernard & Kurlychek, 2010; Feld, 2013). To prevent policy decisions from being influenced by transient ideologies, a long-term policy based on evidence and efforts to incorporate the traditional justice system with therapeutic jurisprudence should be pursued (Slate et al., 2013).

Several concerns discussed above reveal that some challenges (e.g., participants' rights and competency and limited quality treatment services) that administrators will encounter before and during implementing JMHCs. Still, they also inform of further directions for JMHCs. First, considering that there is a growing body of evidence showing that a JMHC model can reduce recidivism and psychiatric symptoms (Ramirez et al., 2015), more funding from federal legislation should be available to provide financial support in the implementation and continuing operation of local JMHCs. The increased funding is particularly important to establish evidence-based practice. Second, it would be critical to identify and examine which therapeutic interventions under JMHCs are most effective in reducing recidivism and psychiatric symptoms by research. JMHCs often use a wide array of therapies and services, but it remains unclear which set of programs are worth investing more funding to avoid criminalization of youth offenders with a mental disorder (Slate et al., 2013). JMHC administrators can keep mechanisms in place to record and report outcomes to establish more

evidence-based practices.

Finally, there should be more adequate services available for JMHCs. Considering that JMHCs often rely on existing community resources for adolescent participants and that the courts may not be able to identify proper treatment resources or services, judges or case coordinators should be provided the resources and authority to create and implement the services for youth with unique needs and risks. The new services created can be applicable to general youth participants in JMHCs, but they can be more specific for youth with a unique situation. For example, trauma-informed treatment can be incorporated into the treatment programs of JMHCs (Benekos & Merlo, 2016). Even though traumatic experiences can have detrimental effects on juveniles and adults, the research indicates that posttraumatic stress disorder (PTSD) can be particularly harmful to juveniles because it can permanently alter brain development (Black, Woodworth, Tremblay, & Carpenter, 2012). Treatment programs under JMHCs can incorporate some elements of trauma-informed treatment.

JMHCs can also provide services for general JMHC participants. For instance, JMHCs can consider recent evidence involving the relationship between nutrition and mental health outcomes when developing mental health services for high-risk juveniles. Researchers have found that symptoms of depression, anxiety-related disorders, biplot disorder, schizophrenia, and obsessive-compulsive disorder can be reduced by using nutritional supplements (Gajos & Beaver, 2016; Lakhani & Vieira, 2010). Recent studies also demonstrate that inadequate nutrition can influence behavioral patterns (Lumley, Stevenson, Oaten, Mahmut, & Yeomans, 2016) and that childhood malnutrition is a critical risk factor for later antisocial behavior (Jackson, 2016). Conversely, several experimental studies have shown that providing dietary nutrients through supplementation (e.g., omega-3 fatty acids, vitamin E) can significantly prevent various types of antisocial behaviors, such as fighting, vandalism, and aggression (Gesch, Hammond, Hampson, Eves, & Crowder, 2002; Hallahan, Hibbeln, Davis, & Garland, 2007; Zanarini & Frankenburg, 2003). Considering the benefits of nutrition for mental health and aggression found in research, JMHC service providers can incorporate nutritional components (e.g., omega-3 fatty acid and micronutrient supplementation) into their treatment strategies.

## CONCLUSION

Many scholars have documented the direction of the juvenile system in the 21<sup>st</sup> century and its future (Benekos & Merlo, 2016; Bernard & Kurlychek, 2010; Butts & Mears, 2001; Welsh, 2005). Welsh (2005) proposed that a public health perspective is required to solve the problem of juvenile criminal violence. According to his review, the interest in juvenile violence in the public health field has increased, and this attention has had positive outcomes for understanding youth who are involved in delinquent acts. Butts and Mears (2001) reviewed empirical evidence on punitive policy such as juvenile transfer and introduced innovative prevention and early intervention programs, highlighting signs of changes in a “get-tough” era. Juvenile justice policies seem to be moving away from punitive measures considering the landmark decisions of the Supreme Court (*Roper v. Simons*, 2005; *Graham v. Florida*, 2010; *Miller v. Alabama*, 2012; *Montgomery v. Louisiana*, 2016). The implications of these key rulings align with some researchers’ predictions that the punitive and get-tough policies would fall out of favor with administrators and taxpayers (Merlo & Benekos, 2010).

The advent of JMHCs reflects the escalating demand for consideration of psychological factors in the juvenile justice system, echoing the historical context of juvenile justice and scientific findings of the adolescent brain (Steinberg, 2008). The cycle of juvenile justice raised concerns about whether this shift is temporary or an authentic transformation (Bernard & Kurlychek, 2010). Bernard and Kurlychek (2010) pointed out that incorrect assumptions about the identification of juvenile delinquents have dictated changes in the juvenile justice system. To break the cycle, they suggested that juvenile delinquents should be perceived as “naïve risk takers” (Bernard & Kurlychek, 2010, p. 216). This proposal is consistent with the reasoning of the recent decisions of the Supreme Court, and it is in accordance with empirical findings from neuroscience and developmental findings that juveniles’ reasoning abilities are not fully formed yet, and that they are still developing into adults (Frost-Tift, 2013; Scott & Grisso, 2005; Shitama, 2013).

However, we also pointed out that JMHCs are not without concerns. Greater efforts should be made to address the paucity of empirical studies on JMHCs (Davis et al., 2016). To accomplish successful research, valid data should be

gathered; prospective data collection strategies that are pre-planned can ensure high-quality data (Heretick & Russell, 2013). Along with efforts to collect comparable and useful data, rigorous evaluation research design should be employed. Quasi-experimental and random assignments have frequently been employed in the adult mental health court literature (Dirks-Linhorst & Linhorst, 2012; Steadman et al., 2011). Future studies conducted with JMHCs should reference earlier efforts from studies on AMHCs.

A growing body of evidence shows that JMHCs can reduce recidivism rates and psychiatric symptoms among youth participants (Behnken et al., 2009; Behnken et al., 2017; Ramirez et al., 2015). Additionally, JMHCs can benefit juveniles by helping them to dismiss charges for their future. A conviction or adjudication record can adversely influence adolescents and their lives in unpredicted ways. For instance, youth with an offense record may not be eligible for federal student loans, and their employment prospect can be limited. They may not be qualified for public housing or other social programs. JMHCs can give youth participants the opportunity to avoid far-reaching collateral outcomes by giving them chances to dismiss charges when completing the programs successfully. These benefits have clear policy implications, highlighting the importance of continuing efforts to develop JMHCs as a stable form of diversion from the justice system (Callahan et al., 2012). More systematically collected data and rigorous analyses will present an evidence-based foundation to address diagnostic and treatment challenges in JMHCs. The current study contributes to and extends the literature on the juvenile justice system by examining JMHCs, an emerging diversion program for youth offenders with mental disorders. By linking the trend of using psychological science to guide legal decisions in the U.S. Supreme Court to the advent of JMHCs, our study suggests that JMHCs may signal the changes in the problematic cyclical patterns of the juvenile justice that were often guided by the public sentiment, not scientific findings.

The current review of JMHCs is not without limitations. First, few empirical studies were introduced (Behnken et al., 2017; Heretick & Russell, 2013), which mirrors the lack of available studies on JMHCs. While the replicated findings of AMHCs suggest the potential for positive outcomes from JMHCs, the conclusive answer should be qualified since there can be possible differences. Second, the current study may not provide an accurate picture of the shift in the juvenile

justice system. To test the shift in the juvenile justice system, statistical methods (e.g., time-series analysis) that allow an opportunity to examine it more rigorously can be helpful.

To bolster policy decisions based on empirical evidence, society should abandon the idea that there will be a panacea for solving juvenile delinquent problems (Bernard & Kurlychek, 2010, p. 234). As the history of juvenile justice demonstrates, a radical shift will worsen the cycle of juvenile justice. Additionally, designing programs based on evidence rather than good intentions is a lesson from history. Recently, the drastic paradigm shift in understanding law not just from accumulated human knowledge, but also from neuroscience illuminates the difference in the functioning of juveniles and adults (Bonnie & Scott, 2013; Casey & Caudle, 2013). Incorporating the efforts from different fields into treatment programs will ultimately help us to understand complex dynamics in the development of juveniles and further intervention to deter criminality.

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# Remedying Racial Profiling under the Fourteenth Amendment by Analogizing *Batson v. Kentucky* and *State v. Soto*

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## Abstract

This article focuses on the legal remedy for racial profiling under the Fourteenth Amendment in the U.S. There have been numerous examples of disparate treatment of racial minorities in the very first stage of the criminal process. However, the *Whren* Court foreclosed relief against racial profiling under the Fourth Amendment by ignoring the effects of racial motivation and by declaring that the subject of racial motivation is irrelevant to Fourth Amendment analysis. Even though the *Whren* Court suggested that the Equal Protection Clause is a more appropriate avenue to challenge racial profiling, courts have rarely upheld claims against racial profiling supported by claimants' statistical evidence. Therefore, this Article proposes that the Court sustain the use of statistical evidence in proving discriminatory intent in racial profiling claims by analogizing the rationale in *Soto* where the New Jersey Superior Court supported statistical evidence in proving discriminatory intent of governmental entities. This Article additionally analyzes *Batson* and suggests that the Court should establish a three-part inquiry to prove discriminatory intent in racial profiling claims, as the *Batson* Court did in cases where a prosecutor was racially motivated to preempt jurors from a jury panel.

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## Keywords

Racial Profiling, Fourteenth Amendment, *Whren v. United States*, *Batson v. Kentucky*, *State v. Soto*.

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## INTRODUCTION

A Constitutional promise to treat all “similarly situated” individuals equally is one of the essential values of the United States since the adoption of the Fourteenth Amendment.<sup>1)</sup> However, certain groups of people have been deprived of their rights, which were taken for granted by the rest of the society, due to their race.<sup>2)</sup> Not surprisingly, some deprivations were justified by the legal system, which had created and enforced legal definitions of racial identities. Just because of their ethnic backgrounds, racial minorities were denied citizenship, the right to vote, and the right to hold property.<sup>3)</sup> Minorities were also limited in their ability to testify against whites, as well as to be on juries.<sup>4)</sup> Today, due to the hard-fought civil rights movement and some landmark Supreme Court decisions, such as *Brown v. Board of Education*, race is no longer considered a legitimate basis for legal discrimination.<sup>5)</sup> However, as Justice O’Connor stated, in *Adarand Constructors v. Peña*, that “[t]he unhappy persistence of both the practice and the lingering effects of racial discrimination against minority groups in this country is an unfortunate reality,”<sup>6)</sup> there have been still lingering effects of the past invidious discrimination, not just in our criminal justice system but also overall society.<sup>7)</sup>

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1) See also *Plyler v. Doe*, 457 U.S. 202, 216 (1982) (holding that “[t]he Equal Protection Clause of the Fourteenth Amendment commands that no State shall ‘deny to any person within its jurisdiction the equal protection of the laws,’ which is essentially a direction that all persons similarly situated should be treated alike”).

2) See Sylvia R. Lazos Vargas, *Deconstructing homogeneous Americanus: the white ethnic immigrant narrative and its exclusionary effect*, 72 Tul. L. Rev. 1493, 1495 (1998) (arguing that in our history, constitutional discourse excluded from the polity distinct groups that did not fit the homogeneity assumption) [hereinafter Vargas, *Deconstructing homogeneous*]; April L. Cherry, *Social Contract Theory, Welfare Reform, Race and the Male Sex-Right*, 75 Ore. L. Rev. 1037, 1040 (1996) (criticizing welfare reform because it targets African American women); Daria Roithmayr, *Barriers to Entry: A Market Lock-in Model of Discrimination*, 86 Va. L. Rev. 727 (2000) (pointing out that the Philadelphia bar association required a mandatory photograph of applicants and bar examinees, and no nonwhites were admitted between 1933 and 1943).

3) See Vargas, *Deconstructing homogeneous*, *supra* note 2, at 1495.

4) See *id.*

5) See 347 U.S. 483, 495 (1954) (holding that separate educational facilities under the doctrine of ‘separate but equal’ are inherently unequal; therefore, “the plaintiffs and others similarly situated for whom the actions have been brought are, by reason of the segregation complained of, deprived of the equal protection of the laws guaranteed by the Fourteenth Amendment”).

6) 515 U.S. 200, 237 (1995); see also *Fisher v. Univ. of Tex.*, 133 S. Ct. 2411, 2433 (2013) (stating that “government actors, including state universities, need not be blind to the lingering effects of ‘an overtly discriminatory past,’ the legacy of ‘centuries of law-sanctioned inequality’”).

These lingering effects can be found in every stage of criminal justice system from law enforcement to sentencing in courts.<sup>8)</sup> Particularly, the disparate treatment of racial minorities in the system begins at the very first stage when law enforcement officers exercise investigatory stops of suspects under *Terry v. Ohio*.<sup>9)</sup> Although the Fourth Amendment requires law enforcement officers to have probable cause to arrest suspects, under *Terry*, they are allowed to stop, investigate, or question a suspect with the less stringent requirement of reasonable suspicion.<sup>10)</sup> However, law enforcement officers sometimes abuse this less stringent requirement to disproportionately target racial minorities, and minorities are subsequently charged, convicted, and incarcerated disproportionate to their demographic makeup in our society.<sup>11)12)</sup>

As a result, there have been numerous cases in which minority defendants claimed that police officers unjustifiably and illegitimately used race to stop, search, and arrest them with an impermissible assumption that minorities are prone to commit crimes.<sup>13)</sup> For example, in *Chavez*, a group of African

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7) See, e.g., William M. Carter, *A Thirteenth Amendment Framework for Combating Racial Profiling*, 39 Harv. C.R.-C.L. L. Rev. 17, 20 (1999) [hereinafter Carter, *A Thirteenth Amendment*]. Professor William Carter has a more drastic view that “widespread stigmatization of African Americans as predisposed toward criminality is a lingering vestige of the slave system;” therefore, racial profiling should be subjected to and outlawed by the Thirteenth Amendment.

8) The Sentencing Project, *Reducing disparity in the criminal justice system: A manual for practitioners and policy makers* (2008), available at [http://www.sentencingproject.org/doc/publications/rd\\_reducingracialdisparity.pdf](http://www.sentencingproject.org/doc/publications/rd_reducingracialdisparity.pdf) [hereinafter The Sentencing, *Reducing disparity*].

9) See 392 U.S. 1, 30 (1968).

10) See *id.* at 30-31.

11) For example, considering New York City’s demographic proportion, the number of people stopped by police disproportionately represents their racial group. African Americans are 23% of the City population, but represent 53.3% of all the police stop whereas whites make up 33% and Asian/Pacific Islander 15% of the City, but they, combined, represent only 15.7% of the total stops. See Delores Jones-Brown, Jaspreet Gill & Jennifer Trone, *Stop, question, and frisk policing practices in New York City: A premier* (2003), available at [http://www.jjay.cuny.edu/web\\_images/PRIMER\\_electronic\\_version.pdf](http://www.jjay.cuny.edu/web_images/PRIMER_electronic_version.pdf) [hereinafter Brown, *New York City*].

12) However, law enforcement officers justify their use of racial profiling based on statistical grounds by citing particular racial groups commit disproportionate number of crimes. See Jim Cleary, *Racial Profiling Studies in Law Enforcement: Issues and Methodology* (2000), available at <http://www.house.leg.state.mn.us/hrd/pubs/raceprof.pdf> [hereinafter Cleary, *Issues and Methodology*]. But see David A. Harris, *The Reality of Racial Disparity in Criminal Justice: The Significance of Data Collection*, 66 L. & Contemp. Probs. 71, 81-82 (2003). Professor David Harris countered such law enforcement officer’s arguments by pointing out that the use of race as one among many factors in arrests leads to an overall higher arrest rate for African Americans but a lower yield rate in terms of detecting wrongdoing.

13) See also The Sentencing, *Reducing disparity*, *supra* note 8, at 2. (“Thirty-eight percent of prison and jail inmates are African American, compared to their 13% percent share of the overall population. Latinos constitute 19% of the prison and jail population compared to their

American and Hispanic motorists claimed state police officers illegitimately targeted them for highway drug searches.<sup>14)</sup> Also, in *Oneonta*, African American residents of Oneonta, a white-dominant town, claimed that their Equal Protection rights were violated when police officers attempted to locate and question all African American males based on the description of a crime suspect.<sup>15)</sup> Critics argue that, despite these continuous claims of racial minorities, courts have “approached claims of police abuse with skepticism and occasionally flagrant disregard for the experience of minority victims.”<sup>16)</sup> Critics vehemently denounce that regardless of whether racial profiling is legally valid or not, racial minorities would rationally perceive that they are treated unfairly, and this adversely affects not only entire racial groups but also the criminal justice system itself.<sup>17)</sup>

Nevertheless, the Supreme Court, in *Whren v. United States*, seems not to endorse racial minorities’ claims that law enforcement officers unjustifiably and illegitimately used race to stop, search, and arrest minorities.<sup>18)</sup> In *Whren*, the Court held that in determining whether a police stop is constitutional under the Fourth Amendment, a law enforcement officer’s motivation for stopping a driver is irrelevant, even though the stop might have been based on the driver’s race, as long as the officer has a probable cause to believe a traffic violation has occurred.<sup>19)</sup> The Court reasoned that the temporary detention of a motorist whom a police officer have a probable cause to believe has committed a civil traffic violation is consistent with the Fourth Amendment’s prohibition against unreasonable seizures, regardless of whether a reasonable officer would have

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15% share of the population. A black male born in 2001 has a 32% chance of spending time in prison at some point in his life, a Hispanic male has a 17% chance, and a white male has a 6% chance.”).

14) See *Chavez v. Ill. State Police*, 27 F.Supp.2d 1053, 1061-62 (N.D. Ill. 1998).

15) See *Brown v. City of Oneonta*, 221 F.3d 329, 334 (2d Cir. N.Y.2000).

16) See Peter A. Lyle, *Racial Profiling and the Fourth Amendment: Applying the Minority Victim Perspective to Ensure Equal Protection Under the Law*, 21 B.C. Third World L.J. 243, 246-47 (2001) [hereinafter Lyle, *Applying the Minority*].

17) See Kami Chavis Simmons, *Beginning to end racial profiling: definitive solution to an elusive problem*, 18 Wash. & Lee J. Civil Rts. & Soc. Just. 25, 41-42 (2011); see also Randall L. Kennedy, *Race, crime, and the law* 159 (1st ed. 1997) [hereinafter Kennedy, *Race*]. Professor Randall Kennedy points out that racial profiling imposes “racial tax” on the targeted racial groups because racial minorities are more likely to be stopped and arrested for the war against drugs and illegal immigration whereas other racial groups, particularly whites, easily escape.

18) See 517 U.S. 806, 812-13 (1996) (stating that “a traffic-violation arrest (of the sort here) would not be rendered invalid by the fact that it was ‘a mere pretext for a narcotics search,’ and that a lawful post arrest search of the person would not be rendered invalid by the fact that it was not motivated by the officer-safety concern that justifies such searches”).

19) See *id.* at 806.

been motivated to stop the vehicle by a desire to enforce the traffic law.<sup>20)</sup> It ultimately held that “the constitutional reasonableness of traffic stops does not depend on the actual motivations of the individual officers involved,” and “subjective intentions play no role in ordinary, probable-cause Fourth Amendment analysis.”<sup>21)</sup>

In *Whren*, even though the Court foreclosed relief under the Fourth Amendment, the Court suggested the Equal Protection Clause under the Fourteenth Amendment as a more appropriate avenue for challenges of racial profiling.<sup>22)</sup> The *Whren* Court made clear that “the Constitution prohibits selective enforcement of the law based on considerations such as race,” but “the constitutional basis for objecting to intentionally discriminatory application of law is the Equal Protection Clause, not the Fourth Amendment.”<sup>23)</sup> However, even under the Equal Protection analysis, the Court has never upheld any challenge against racial profiling, and it is not promising for the Court to uphold such challenge, due to the heavy burdens imposed on challengers under *Washington v. Davis*<sup>24)</sup> and, particularly, *McCleskey v. Kemp*.<sup>25)</sup> Under these cases, the Court requires an Equal Protection challenger to prove not only discriminatory impact but also discriminatory intent of governmental entities; however, the Court has set an almost insurmountable standard of proving discriminatory intent by not sustaining statistical evidence, which is one of a few practical and objective evidence to prove discriminatory intent.<sup>26)</sup>

Therefore, this Article maintains that the Court should implement an alternative means of protecting racial minorities from illegitimate investigatory stops by sustaining statistical evidence in proving discriminatory intent in racial profiling claims and lowering or shifting the burden of challengers. In particular, this Article argues that the Court should analogize the rationale in *Batson* and the New Jersey Superior Court decision, *Soto*, when the Court to decide whether

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20) *See id.*

21) *See id.*

22) *See id.* at 813; *see also* Melissa Whitney, *The Statistical Evidence of Racial Profiling in Traffic Stops and Searches: Rethinking the Use of Statistics to Prove Discriminatory Intent*, 49 B.C. L. Rev 263, 280-82 (2008) [hereinafter Whitney, *The Statistical Evidence*].

23) *See Whren*, 517 U.S. at 813.

24) 426 U.S. 229, 270 (1976).

25) 481 U.S. 279, 367 (1987).

26) *See Whitney, The Statistical Evidence, supra* note 22, at 282.

a racial profiling challenger can demonstrate an equal protection violation due to the prosecutor's racially motivated actions because these two cases combined provide a guideline for the type of statistical evidence sufficient to demonstrate discriminatory intent and lowering burden of challengers in proving such an intent.<sup>27)28)</sup>

Part I examines the constitutional origin, definition, and detrimental impact of racial profiling. Although powers authorized to law enforcement officers under *Terry* seems to be legitimate and racially neutral, the Court and law enforcement officers have expanded and interpreted the original meaning of *Terry*, as well as the definition of racial profiling, to their own advantage or for the purpose of crime control at the expense of detrimental impact on racial minorities. Part II analyzes the Supreme Court's current Equal Protection analysis for racial discrimination claims, including racial profiling, and its inadequacy to protect racial minorities from the illegitimate stop-and-frisk policy. Particularly, Part II addresses that Court imposes a heavy burden on minority claimants to prove discriminatory intent of law enforcement officers by not sustaining statistical evidence of supporting such intent under *McCleskey*. Part III suggests that the Court sustain the use of statistical evidence in proving discriminatory intent in racial profiling claims by analogizing the rationale in *Soto* where the New Jersey Superior Court supported statistical evidence in proving discriminatory intent. Also, Part III analyzes *Batson* and suggests that the Court should establish a three-part inquiry to prove discriminatory intent in racial profiling claims, as the *Batson* Court did in cases where a prosecutor was racially motivated to preempt jurors from a jury panel.

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27) See *id.*

28) See *Batson v. Kentucky*, 476 U.S. 79, 115 (1986); *State v. Soto*, 734 A. 2d 350, 360-61 (N.J. Super. Ct. Law Div. 1996).

## BACKGROUND: CONSTITUTIONAL ORIGIN, DEFINITION, AND DETRIMENTAL IMPACT OF RACIAL PROFILING

### Racial Profiling as an Illegitimate Exercise of *Terry* Stop<sup>29)</sup>

The fundamental purpose of the Fourth Amendment is to safeguard the privacy and security of individuals against arbitrary invasions by government officials; therefore, “particularly describing the place to be searched, and the persons or things to be seized” is the requirement for reasonable searches and seizures.<sup>30)</sup> However, in *Terry*, the Court authorized a police officer to detain a person briefly, to investigate, and to question a person without probable cause.<sup>31)</sup> Even though a police officer is allowed to stop and frisk a person upon the less stringent requirement, a reasonable suspicion of criminal activity, the Court emphasized that a search for weapons in the absence of probable cause to arrest must “be strictly circumscribed by the exigencies which justify its initiation.”<sup>32)</sup> The Court lowered the threshold for probable cause in a limited circumstance only where the law enforcement officer “has reason to believe that he [or she] is dealing with an armed and dangerous individual.”<sup>33)</sup>

However, since *Terry*, the Court has expanded the original meaning of *Terry* standard, particularly with regard to the definition of reasonable suspicion of criminal activity and factors that may be considered in determining on the presence of such reasonableness.<sup>34)</sup> For example, in *Illinois v. Wardlow*, the Court found that a police officer is authorized to stop and frisk a person even

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29) This arguably illegitimate practice of investigatory police activity has been described as “driving while black.” David, A. Harris, “*Driving while black*” and all other traffic offenses: the Supreme Court and pretextual traffic stops, 87 J. Crim. L. & Criminology 544, 546 (1997).

30) See U.S. Const. amend. IV; see generally Haley Plourde-Cole, *Back to Katz: Reasonable Expectation of Privacy in the Facebook Age*, 38 Fordham Urb. L.J. 571, 626 (2010) (“the Fourth amendment essentially functions as a procedural requirement; rather than prohibiting searches and seizures all together, it requires that law enforcement obtain a warrant based on probable cause. The historical judgment encapsulated by the Fourth Amendment was that unlimited discretion among those with investigatory and prosecutorial duties would produce pressure to overlook potential invasions of privacy”).

31) See *Terry*, 392 U.S. at 10.

32) See *id.* at 25-26.

33) See *id.* at 10. The *Terry* court also stated that “whether the officer acted reasonably in such circumstances, due weight must be given, not to his inchoate and unparticularized suspicion or ‘hunch,’ but to the specific reasonable inferences which he is entitled to draw from the facts in light of his experience.” *Id.* at 27.

34) See also *Illinois v. Wardlow* 528 U.S. 119, 121 (2000).

without reasonable fear for his own or others' safety when the person fled upon seeing the officer patrolling an area known for heavy narcotics trafficking.<sup>35)</sup> The Court found that reasonable suspicion must be determined on commonsense judgments under the totality of circumstances, and the officer is justified in stopping and frisking based on the person's "presence in an area of heavy narcotics trafficking" and "his unprovoked flight upon noticing the police."<sup>36)</sup> This tendency to expand the boundary of reasonable suspicion by additionally taking other factors into account seems to be a digression from the original rationale for lowering the threshold for probable cause, which is the protection of officers' safety. The Court has also acquiesced to such expansion of meaning of reasonable suspicion by overlooking the outcries of racial minorities at the expense of effective crime prevention and detection.<sup>37)</sup>

### Controversies over the Legality of Racial Profiling Based on Its Definitions

Considering that the constitutionality of a specific stop-and-frisk practice has been decided on whether the contested practice is within the boundary of reasonable suspicion, the constitutionality of racial profiling depends on whether race can be a legitimate stimulus for a law enforcement officer to have reasonable suspicion. Some scholars and courts have differentiated legitimate use of race from illegitimate use and supported the law enforcement to make a legitimate use of race in criminal investigation.<sup>38)</sup> Then, the question would be to

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35) *See id.*

36) *See id. at 124, 128, 136.*

37) This was what Justice Douglas was concern in his dissenting opinion in *Terry*. He argued that "[t]here have been powerful hydraulic pressures throughout our history that bear heavily on the Court to water down constitutional guarantees and give the police the upper hand. That hydraulic pressure has probably never been greater than it is today. Yet if the individual is no longer to be sovereign, if the police can pick him up whenever they do not like the cut of his jib, if they can 'seize' and 'search' him in their discretion, we enter a new regime. The decision to enter it should be made only after a full debate by the people of this country." *Id.* at 39.

38) For example, Professor Bernard Harcourt argues that if "racial profiling reduces the profiled crime, then, as between different policing techniques, racial profiling is preferable only if it represents a more efficient allocation of resources." In this case, racial profiling would increase the efficiency of policing if it produces higher overall rates of detection of a certain type of crime, such as drug contraband. However, if racial profiling produce an adverse effect on the profiled population, law enforcement officers should not exercise racial profiling. Bernard E. Harcourt, *Rethinking Racial Profiling: A Critique of the Economics, Civil Liberties, and Constitutional Literature, and of Criminal Profiling More Generally*, 71 U. Chi. L. Rev. 1275, 1279-80 (2004) [hereinafter Harcourt, *Rethinking Racial Profiling*]; *see also* Kimani Paul-Emile, *The Regulation of Race in Science*, 80 Geo. Wash. L. Rev. 1115,1156 (2012) ("although racial profiling by law enforcement has been broadly condemned as illegitimate and constitutionally

what extent police officers are allowed to use race in their criminal investigations. The definition of racial profiling partially suggests the possible answer for legitimacy of use of race for reasonable suspicion.

Racial profiling is defined in more than a single meaning, depending on its scope or dominant purpose of it.<sup>39)</sup> Under the narrow definition, racial profiling occurs when a police officer stops, questions, arrests, or searches a person “solely on the basis of the person’s race or ethnicity.”<sup>40)</sup> Law enforcement officers maintain that it is extremely rare case that officers stop and subsequently investigate a person *solely* based on race and ethnicity; therefore, they can speak out that such a profiling no longer exists in their practice.<sup>41)</sup> Critics, on the other hand, point out that racial discrimination, as the most invidious form of unreasonableness and unlawfulness, still exists in our criminal justice system.<sup>42)</sup>

However, law enforcement officers argue that even if they might use race in their criminal investigations, their investigations are not *solely* based on race, but other racially neutral factors; thus, their use of race cannot be deemed racial profiling under the narrow definition of racial profiling.<sup>43)</sup> The Supreme Court also assumingly endorses law enforcement officers’ argument based on the narrow definition of racial profiling in *Whren* and other subsequent cases by not considering actual and subject motivations of individual officers as long as officers have racially neutral reasons to stop persons, such as civil traffic violations.<sup>44)</sup>

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suspect, courts have uniformly accepted the practice of identifying criminal suspects based upon their race”); see, e.g., *United States v. Waldon*, 206 F.3d 597, 604 (6th Cir. 2000) (holding that police may consider race in stopping a person if a criminal suspect’s description includes a racial identification); *Buffkins v. City of Omaha*, 922 F.2d 465, 467-68 (8th Cir. 1990) (holding that the detention of a black woman at an airport did not amount to tip, which was only that “a black person or persons arriving on a flight from Denver” would be carrying cocaine).

39) See Cleary, *Issues and Methodology*, *supra* note 12, at 5-6.

40) See *id.* at 5.

41) See *id.* at 9. But see Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1340. Professor Bernard Harcourt argues that race alone should be used as a factor to satisfy reasonable suspicion if necessary. He also points out that “under some rare or unique circumstances, race may be such a strong predictor of criminality that it raises justifiable suspicion. If race alone predicts a form of criminality to the satisfaction of a Fourth Amendment level of suspicion, it should be evaluated like any other predictive factor rather than being per se impermissible.”

42) See Cleary, *Issues and Methodology*, *supra* note 12, at 9.

43) See *id.* at 10.

44) See *Whren*, 517 U.S. at 810-11; see also *Ashcroft v. al-Kidd*, 131 S. Ct. 2074, 2082 (2011) (upholding *Whren* by indicating that “Our unanimous opinion held that we would not look behind an objectively reasonable traffic stop to determine whether racial profiling or a desire

Peter Lyle argues that the *Whren* Court seems to assume that racism and prejudice have been abolished, and police officers, criminals, and even victims are unbiased rational actors devoid of prejudice or racial stereotype.<sup>45)</sup> Unfortunately, this ideal and theoretical world is not what our society looks like in the reality of life.<sup>46)</sup> “Too often, courts turn a blind eye to the biased motivations of police officers and the mixed feelings of fear, anger, and powerlessness that innocent minorities experience when subjected to police searches.”<sup>47)</sup> Similarly, professor Anthony Thompson contends that “[i]f police officers target people of color for searches and seizures, this is precisely the kind of abuse of search and seizure powers that the Framers of the Fourth Amendment sought to prevent.”<sup>48)</sup>

On the other hand, under the broader definition, racial profiling occurs when police officers consider a person’s race or ethnicity as one of factors in deciding how they should exercise the discretionary power under *Terry*.<sup>49)</sup> Police officers rely on this broader definition to justify their controversial policy by demonstrating that race or ethnicity is just one factor rooted in *statistical reality*, not racism, like other factors, such as age, time, and location.<sup>50)</sup> The Court has authorized the use of race as a factor for reasonable suspicion in several cases.<sup>51)</sup>

However, this partial use of race cannot be always justified just because other racially neutral factors are considered. As it sounds, reasonableness itself is elusive and cannot be defined with clear boundaries; therefore, this malleable

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to investigate other potential crimes was the real motive”).

45) See Lyle, *Applying the Minority*, *supra* note 16, at 257 (quoting Thompson, *Stopping the Usual Suspects*, *supra* note 51, at 991).

46) See *id.*

47) See *id.*

48) See *id.* at 257-58 (quoting Thompson, *Stopping the Usual Suspects*, *supra* note 51, at 998).

49) See Cleary, *Issues and Methodology*, *supra* note 12, at 6.

50) Law enforcement officers justify their use of racial profiling based on statistical grounds by citing particular racial groups commit disproportionate number of crimes. See Cleary, *Issues and Methodology*, *supra* note 12, at 10.

51) See e.g. *United States v. Martinez-Fuerte*, 428 U.S. 543, 563 (1976) (permitting discretion to use “apparent Mexican ancestry” as an indicia of suspicion); *United States v. Brignoni-Ponce*, 422 U.S. 873, 886-87 (1975) (“The likelihood that any given person of Mexican ancestry is an alien is high enough to make Mexican appearance a relevant factor ... .”); see also, Anthony C. Thompson, *Stopping the Usual Suspects: Race and the Fourth Amendment*, 74 N.Y.U.L. Rev. 956, 978 (1999) [hereinafter Thompson, *Stopping the Usual Suspects*] (“If, on the other hand, the police or prosecution sought to make express use of race as one of the considerations supporting a search or seizure, the Court would directly address the subject of race and, if the Court deemed it appropriate, approve the practice”).

reasonableness standard gives enormous discretion to the police and results in expansion of police powers and diminishment of individual freedom.<sup>52)</sup> The expansion of discretion is one thing, but the real issue is that the police abuse or misuse their discretion to target the disfavored group, racial minorities.<sup>53)</sup> As Justice O'Connor argues, in her dissenting opinion in *Atwater v. City of Lago Vista*, that "as the recent debate over racial profiling demonstrates all too clearly, a relatively minor traffic infraction may often serve as an excuse for stopping and harassing an individual," more police officers exercise their discretion resting on inappropriate racial or ethnic factors to target racial minorities.<sup>54)</sup>

### Detrimental Impact of Racial Profiling on Society

Whatever the definition of racial profiling is, whether race is solely based or considered just as a factor in police investigation, the police use both definitions to justify their practice of stop-and-frisk policy. Even if the argument of the police that racial profiling, solely based on race, no longer exists in practice and, even if they use race, they consider race as a factor is found true, there have been substantial number of social and legal studies on the detrimental effect of stop-and-frisk policy on racial minorities.<sup>55)</sup> Professor Randall Kennedy points out that even though some degree of racial discrimination by police may be rational,

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52) Tracey Maclin, *Terry and Race: Terry v. Ohio's Fourth Amendment Legacy: Black Men and Police Discretion*, 72 St. John's L. Rev. 1271, 1278 (1998).

53) For example, in *United States v. Harvey*, a police officer testified that if occupants of car he stopped had not been African-Americans, he would not have stopped the car. He also added that the basis for your stopping that car were age of the vehicle and the appearance of the occupants, but "Almost every time that we have arrested drug traffickers from Detroit, they're usually young black males driving old cars." His testimony shows how police officers have abused their discretions to target racial minorities. See 16 F.3d 109, 113-14 (1994); see also Pamela S. Karlan, *Race, Rights, and Remedies in Criminal Adjudication*, 96 Mich. L. Rev. 2001, 2005-09 (1998) (arguing that traffic stops are often pretextual to investigate other crimes and are based on race); Timothy P. O'Neill, *Beyond Privacy, Beyond Probable Cause, Beyond the Fourth Amendment: New Strategies for Fighting Pretext Arrests*, 69 U. Colo. L. Rev. 693, 693-94 (1998) (denouncing pretextual traffic stops and criticizing judicial approach to the subject).

54) See 532 U.S. 318, 372 (2001). Justice O'Connor also added that even though "an officer's subjective motivations for making a traffic stop are not relevant considerations in determining the reasonableness of the stop" under *Whren*, it must be vigilantly ensured "that officers' post stop actions -- which are properly within our reach -- comport with the Fourth Amendment's guarantee of reasonableness." See *id.* at 372; see also Milton Heumann and Lance Cassak, *Profiles in Justice? Police Discretion, Symbolic Assailants, and Stereotyping*, 53 Rutgers L. Rev. 911, 934 (2001) ("As we have seen regarding the latter with regard to profiling, there is a fine line between laudable exercise of discretion by experienced police officers, and the exercise of discretion resting on inappropriate racial or ethnic factors").

55) See Kennedy, *Race*, *supra* note 17, at 145; see also Richard Banks, *Beyond Profiling: Race, Policing, and the Drug War*, 56 Stan. L. Rev. 571, 594-98 (2003) [hereinafter Banks, *Beyond Profiling*].

permitting any form of discrimination sends the wrong message to law enforcement officers and the general public.<sup>56)</sup>

First, racial profiling, as ‘a badge or incident of slavery,’ stigmatizes and dehumanize racial minorities, particularly African Americans, given their history of enduring legally enforced and officially sanctioned enslavement, apartheid and mistreatment.<sup>57)</sup> The stigma, an association of blackness with criminality, remains one that “African Americans cannot escape, regardless of their individual circumstances,” and racial profiling “denies the essential humanity and individuality of those subjected to it.”<sup>58)</sup> It is also critical to understand “the injuries caused by racial profiling are suffered regardless of whether the person singled out is actually engaged in criminal activity” because racial profiling carries feelings of victimization, powerlessness and being subjected to control.<sup>59)</sup>

Moreover, disproportionate exercise of stop-and-frisk policy in the stage of law enforcement substantially affects the subsequent stages of criminal system, resulting in higher rates of arrest and incarceration rates.<sup>60)</sup> The disproportionate incarceration imposes especially harmful social, economic, and political consequences on racial minority communities.<sup>61)</sup> As a result of incarceration, the

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56) See Kennedy, *Race*, *supra* note 17, at 145.

57) The reason why Professor William Carter refers as racial profiling to “a badge or incident of slavery” is that “racial profiling is a modern manifestation of the historical presumption, still lingering from slavery, that African Americans are congenital criminals rightfully subject to constant suspicion because of their skin color.” See Carter, *A Thirteenth Amendment*, *supra* note 7, at 56-57.

58) See Carter, *A Thirteenth Amendment*, *supra* note 7, at 24.

59) See *id.* at 26; see also Ronald Weitzer, *Racialized Policing: Residents' Perceptions in Three Neighborhoods*, 34 *Law & Soc'y Rev.* 129, 131-33 (2000). Ronald Weitzer conducted in-depth interviews were in the years 1996-1997 with 169 residents of two predominantly African American neighborhoods and a predominantly white neighborhood in Washington, D.C. He found that twice as many blacks (54%) as whites (27%) believed that race made a difference in how a person is treated by police. Of those who thought it made a difference, “blacks were more likely than whites to say that blacks were treated rudely or ‘picked on more,’ and three times more likely (45% and 15%, respectively) to believe that blacks were subjected to police brutality.” *Id.*

60) See Brown, *New York City*, *supra* note 11, at 17 (They compared outcomes from Blacks and Hispanics stops with the outcomes of stops involving Whites. Proportionally, the outcomes for Whites. Whites who comprise the smallest number of persons stopped, are strikingly similar to those for Blacks and Hispanics (combined) who are stopped in much higher numbers. They also found that 5.50% of all Whites stopped in 2008 were arrested as compared to 6.07% of Blacks and Hispanics. While in 2008, the percentage of Whites arrested following stops was lower than the percentage of Blacks and Hispanics combined); See also Jeffrey Fagan & Garth Davies, *Street stops and broken windows: Terry, race, and disorder in New York City*, 28 *Fordham Urb. L.J.* 457, 457-504 (2000) (“The ratio of 9.5 stops of black citizens for each arrest made was 20% higher than the 7.9 ratio for whites. Such higher stop-arrest ratios suggest either that stops for blacks were pretextual and largely unfounded, or that police were less discriminating or skillful in assessing ‘suspicion’ for minority citizens”).

families of inmates lose the social and economic support, and the racial minority community stability is impaired both “by the loss of so many adults and, paradoxically, by their reentry into the community after having endured the conditions of prison.”<sup>62)</sup> Also, widespread incarcerations reinforce a sense of racial injustice of racial minorities who are aware of the long history of invidious racial discrimination by governmental officers.<sup>63)</sup> This perception of injustice among racial minorities “diminish[es] a group's respect for the law and willingness to obey it” and is “a cost that should be incorporated into the policy calculus,” as well as court decision.<sup>64)</sup>

### INADEQUACY OF THE FOURTEENTH AMENDMENT TO REMEDY RACIAL PROFILING

Even though racial profiling is based on an impermissible abuse police’s discretion and adversely affects not only an individual racial minority but also the minority community as a whole, the *Whren* Court foreclosed relief against racial profiling under the Fourth Amendment.<sup>65)</sup> Instead, the Court suggested that the Equal Protection Clause is a more appropriate avenue to challenge racial profiling because it is an intentionally discriminatory application of laws by government officers.<sup>66)</sup> However, even under the Equal Protection Clause, it is not promising for challengers against racial profiling to successfully convince the Court that their rights under the Clause are infringed by the illegitimate exercise of the stop-and-frisk practice.

#### Equal Protection Analysis Frame under Current Laws

In *Davis*, the Supreme Court established the Equal Protection analysis for racial discrimination.<sup>67)</sup> The Court held that “our cases have not embraced the

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61) See Banks, *Beyond Profiling supra* note 55, at 596.

62) See *id.* at 596-597 (“because imprisonment often results in loss of the right to vote even after release, a high rate of imprisonment will substantially diminish a group's political power, including its ability to influence the laws that disenfranchise so many of its members”).

63) See *id.* at 597.

64) See *id.* at 598.

65) See *Whren*, 517 U.S. at 809-10.

66) See *id.* at 813.

67) *Washington. v. Davis*, 426 U.S. 229, 239 (1976).

proposition that a law or other official act, without regard to whether it reflects a racially discriminatory purpose, is unconstitutional *solely* because it has a racially disproportionate impact.”<sup>68</sup>) Thus, to succeed on a claim of racial discrimination, a claimant must prove not only discriminatory impact, but also discriminatory intent. In a claim against racial profiling, a claimant must show not only a law enforcement officer’s stop-and-frisk practice has a disparate impact on the claimant’s racial group but also such practice constitutes an intentional pattern of discrimination.<sup>69</sup>)

### **Insurmountable Bar to Prove Discriminatory Intent under Current Laws**

To prove discriminatory impact, racial profiling claimants are required to provide evidence that “they were treated differently than similarly situated persons of another race who were not stopped by law enforcement officers.”<sup>70</sup>) However, “[i]t is virtually impossible to identify a ‘similarly situated’ individual who was not stopped. The person cannot be identified at all, nor is there any recorded information from which one can compare whether the motorists presented similar factors to an observing officer, such that there has been disparate treatment or not.”<sup>71</sup>) Instead, claimants usually must resort statistical evidence designed to show that members of their racial group were stopped disproportionately to their percentage in the population, and courts typically found that such statistical evidence is sufficient to demonstrate the discriminatory

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68) *See id.* at 239.

69) *See Whitney, The Statistical Evidence, supra* note 22, at 282.

70) *See* Michael R. Smith, *Depoliticizing Racial Profiling: Suggestions for the Limited Use and Management of Race in Police Decision-Making*, 15 *Geo. Mason U. Civ. Rts. L.J.* 219, 237-38 (2005); *see, e.g., United States v. Armstrong*, 517 U.S. 456, 465 (1996) (“The claimant must demonstrate that the federal prosecutorial policy ‘had a discriminatory effect and that it was motivated by a discriminatory purpose.’ To establish a discriminatory effect in a race case, the claimant must show that similarly situated individuals of a different race were not prosecuted”); *Chavez*, 27 F.Supp.2d at 636 (“To prove discriminatory effect, the plaintiffs are required to show that they are members of a protected class, that they are otherwise similarly situated to members of the unprotected class, and that plaintiffs were treated differently from members of the unprotected class”).

71) *See United States v. Mesa-Roche*, 288 F. Supp. 2d 1172, 1187 (D. Kan.2003). *But see* Whitney, *The Statistical Evidence, supra* note 22, at 275-76 (Several states enacted statutes, which require data collection on the characteristics of all drivers stopped for alleged traffic violations by state law enforcement officers. “The data recorded include the number of routine stops, the race and age of individual stopped, the alleged traffic infraction committed, whether a search was conducted, the rationale for a search, whether contraband was found, whether a warning or citation was issued as a result of the stop, and whether an arrest was made following the stop.”).

impact.<sup>72)</sup>

On the other hand, with respect to the discriminatory intent, courts generally conclude that “racial profiling does not raise equal protection problems unless a person’s race was the *sole* reason she was singled out for suspicion.”<sup>73)</sup> Unlike the discriminatory impact, the “nearly insurmountable discriminatory intent requirement essentially operates a complete bar, making equal protection claims [against] racial profiling virtually illusory.”<sup>74)</sup> Generally, claimants attempt to prove a discriminatory intent by “rely[ing] on statistics to show patterns of unequal application of facially neutral laws because when statistical data presents a stark pattern of dissimilar treatment, the courts may infer purposeful discrimination.”<sup>75)</sup> However, courts rarely uphold claims against racial discrimination supported by claimants’ statistical evidence because “[s]tatistical data, by itself, can support an inference of discrimination, but must be coupled with additional evidence to permit a finding of discriminatory intent.”<sup>76)</sup>

For instance, the Supreme Court ruling in *McCleskey* illustrated the stringent bar to using statistical evidence to prove discriminatory purpose.<sup>77)</sup> In *McCleskey*, an African American defendant claimed that his death sentence was decided

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72) See Whitney, *The Statistical Evidence*, *supra* note 22, at 283; see, e.g., *United States v. Duque-Nava*, 315 F. Supp. 2d 1144, 1153-63 (D. Kan. 2004) (finding that statistical evidence of officers stopping Hispanic and black drivers more frequently than white drivers who committed similar traffic violations was sufficient to allege discriminatory effect but not intent); *United States v. Barlow*, 310 F.3d 1007, 1011 (7th Cir. 2002); *Chavez*, 251 F.3d at 640; *United States v. Duque-Nava*, 315 F. Supp. 2d 1144, 1155-56 (D. Kan. 2004); *United States v. Alcaraz-Arellano*, 302 F. Supp. 2d 1217, 1226 (D. Kan. 2004); *United States v. Parada*, 289 F. Supp. 2d 1291, 1305 (D. Kan. 2003); *United States v. Mesa-Roche*, 288 F. Supp. 2d 1172, 1187-88 (D. Kan. 2003).

73) See Carter, *A Thirteenth Amendment*, *supra* note 7, at 37; see, e.g., *United States v. Travis*, 62 F.3d 170, 173-74 (6th Cir. 1995) (“We have no need to reach [the question of whether the exclusionary rule applies to Fourteenth Amendment violations] because the detectives in this case did not choose to interview the defendant solely because of her race.”); *Ford v. Wilson*, 90 F.3d 245, 248-49 (7th Cir. 1996) (affirming grant of summary judgment in favor of the defendant officer because the plaintiff could not point to evidence showing that the officer’s sole motivation in making the stop was the plaintiff’s race). However, the Supreme Court held that, in a housing discrimination case, the Equal Protection Clause “does not require a plaintiff to prove that the challenged action rested solely on racially discriminatory purposes.” See *Arlington Heights v. Metro. Hous. Dev. Corp.*, 429 U.S. 252, 265-66 (1977).

74) See Whitney, *The Statistical Evidence*, *supra* note 22, at 282.

75) See Jeremiah Wagner, *Racial (De)Profiling: Modeling A Remedy For Racial Profiling After the School Desegregation Cases*, 22 Law & Ineq. 73, 84-85 (2004).

76) See Hurn v. United States, 221 F. Supp. 2d 493, 501, (D.N.J.2002); see also *United States v. Duque-Nava*, 315 F. Supp. 2d 1144, 1156 (D. Kan.2004) (“While helpful, purely statistical evidence is rarely sufficient to support an equal protection claim, but can be sufficient to establish discriminatory effect”).

77) See 481 U.S. 279, 299 (1987)

based on his race by offering statistical evidence which showed that in the aggregate, African American defendants who murdered white victims were more likely to receive a death sentence than other victim-offender racial combination.<sup>78)</sup> The *McCleskey* Court, however, held that a statistically significant study was insufficient to demonstrate that decision makers had acted with discriminatory intent *in his specific case*.<sup>79)</sup> In support of its conclusion, the Court distinguished a series of earlier decisions, usually in venire-selection challenges, that had accepted the use of statistics to prove discriminatory intent.<sup>80)</sup>

First, the Court pointed out that, unlike to venire-selection process, imposition of death penalty in each case is based on a variety of factors, not just race of the defendant; thus, general statistical evidence is not strong enough to support that a specific defendant is sentenced due to the general tendency shown in the statistical evidence.<sup>81)</sup> The Court reasoned that “the application of an inference drawn from the general statistics to a specific decision in a trial and sentencing simply is not comparable to the application of an inference drawn from general statistics to a specific venire-selection.”<sup>82)</sup> Each decision to impose the death penalty rests on innumerable factors that vary according to the characteristics of the individual defendant and the unique composition of each jury whereas an Equal Protection challenge for a specific venire-selection is usually based on a few factors, mainly race.<sup>83)</sup>

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78) *See id.* at 286-87.

79) *See id.* at 286, 292-94. However, “[t]he Court has accepted statistics as proof of intent to discriminate in certain limited contexts. First, this Court has accepted statistical disparities as proof of an equal protection violation in the selection of the jury venire in a particular district. Although statistical proof normally must present a ‘stark’ pattern to be accepted as the sole proof of discriminatory intent under the Constitution, ‘because of the nature of the jury-selection task, . . . we have permitted a finding of constitutional violation even when the statistical pattern does not approach [such] extremes.’” *See id.* at 293-94.

80) *McCleskey*, 481 U.S. at 294 (citing *Turner v. Fouché*, 396 U.S. 346, 359 (1970) (accepting statistical disparities as proof of an equal protection violation in the selection of the jury venire in a particular district); *Castaneda v. Partida*, 430 U.S. 482, 495 (1977) (statistical disparity between Hispanic representation of those summoned to grand jury duty and Hispanic population in the county); *Bazemore v. Friday*, 478 U.S. 385, 400-401 (1986) (“accept[ing] statistics in the form of multiple-regression analysis to prove statutory violations under Title VII of the Civil Rights Act of 1964”)).

81) *See McCleskey*, 481 U.S. at 294. *But see id.* at 325 (Brennan, J., dissenting) (“Close analysis of the Baldus study, however, in light of both statistical principles and human experience, reveals that the risk that race influenced McCleskey’s sentence is intolerable by any imaginable standard. The Baldus study indicates that, after considering some 230 nonracial factors that might legitimately influence a sentencer, the jury more likely than not would have spared McCleskey’s life had his victim been black”).

82) *See McCleskey*, 481 U.S. at 294.

83) *See id.*

Second, the Court differentiated the imposition of a specific sentence from venire-selection challenges by pointing out whether the being challenged has an opportunity to rebut the challenger's supporting statistical evidence.<sup>84)</sup> The Court stated that using statistics in venire-selection challenge imposes less burden on the being challenged than one in a specific sentencing cases because "the decision maker has an opportunity to explain the statistical disparity" in venire-selection cases whereas "the State has no practical opportunity to rebut [statistical] study" offered in a specific decision in a trial because jurors "'cannot be called . . . to testify to the motives and influences that led to their verdict.'"85)

Thus, the Court generally rejects the use of aggregate population statistics to prove discriminatory intent towards a particular claimant in a specific case.<sup>86)</sup> Unless law enforcement officers openly acknowledge that they stop and search suspects mainly based on race, claimants against racial profiling are left to argue that "any circumstantial or statistical evidence of the discriminatory effect they suffered is so strong that it is tantamount to proof of intent."<sup>87)</sup> Courts widely reject this argument in all but the most extreme cases.<sup>88)</sup>

### **Two Cases in which the Supreme Court Sustained Statistical Evidence to Support Discriminatory Intent**

Even though the Supreme Court consistently has held that statistical evidence is not strong enough to prove discriminatory intent, in a few cases where the statistical evidence of discriminatory impact was so striking, the Court allowed an inference of discriminatory intent.<sup>89)</sup> For instance, in *Yick Wo*, the Court held that statistical evidence of discrimination against a group of Chinese laundry business owners was strong enough to infer the discriminatory intent when two hundred Chinese were denied permits under a new ordinance whereas eighty

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84) *See id.* at 296.

85) *See id.* at 286.

86) *See Whitney, The Statistical Evidence, supra* note 22, at 283.

87) *See id.* at 283. *But see Harvey*, 16 F.3d 109, 110-12 (even though the police officer testified that if occupants of car he stopped had not been African-Americans, he would not have stopped the car, the Sixth Circuit held that the stop was reasonable as long as he had a probable cause to stop the car with a traffic violation).

88) *See Whitney, The Statistical Evidence, supra* note 22, at 283; *see, e.g., Yick Wo v. Hopkins*, 118 U.S. 356, 374 (1886); *Gomillion v. Lightfoot*, 364 U.S. 339, 341 (1960).

89) *See Yick Wo*, 118 U.S. at 374; *Gomillion*, 364 U.S. at 341.

others, not Chinese, were permitted to carry on the same business under similar conditions.<sup>90)</sup> The Court reasoned that “whatever may have been the *intent* of the ordinances as adopted,” application of the ordinance exclusively directed against a particular group of people that the court could infer “a mind so unequal and oppressive as to amount to a practical denial by the State of that equal protection of the laws.”<sup>91)</sup>

Moreover, in 1960, the *Gomillion* Court found that overwhelming statistical evidence of disparate impact was sufficient to infer discriminatory intent.<sup>92)</sup> The Court found that the Alabama legislature's redrawing of the Tuskegee city boundaries in a manner that “removed from the city all save only four or five of its 400 Negro voters while not removing a single white voter or resident” was unconstitutional because “the legislation was solely concerned with segregating white and colored voters by fencing African American citizens out of town so as to deprive them of their pre-existing municipal vote.”<sup>93)</sup> However, *Gomillion v. Lightfoot* is the last U.S. Supreme Court decision to substantially expand the use of statistical evidence to infer the discriminatory intent under the Equal Protection claim.<sup>94)</sup>

However, after thirty years, the *McCleskey* Court stated that statistical evidence is not strong enough to infer discriminatory intent when a discretionary decision rests on innumerable factors.<sup>95)</sup> Also, the rationale behind admitting statistical evidence in *Yick Wo* and *Gomillion* might not be applicable to claims against racial profiling. In two cases, the disparity in the numbers between the allegedly being discriminated and not being discriminated was strikingly huge, such as almost 400 African Americans versus zero whites in *Gomillion*; however, in racial profiling claims, such disparity is generally not huge enough for the Court to infer the discriminatory intent.<sup>96)</sup> Thus, these two old-established cases

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90) See *Yick Wo*, 118 U.S. at 373-74.

91) See *id.* at 373. The Court further reasoned that “[t]hough the law itself be fair on its face and impartial in appearance, yet, if it is applied and administered by public authority with an evil eye and an unequal hand, so as practically to make unjust and illegal discriminations between persons in similar circumstances, material to their rights, the denial of equal justice is still within the prohibition of the Constitution.” See *id.* at 373-74.

92) *Gomillion*, 364 U.S. at 341.

93) See *id.*

94) See Whitney, *The Statistical Evidence*, *supra* note 22, at 288.

95) See *McCleskey*, 481 U.S. at 289.

96) See *Gomillion*, 364 U.S. at 341.

might give a glimpse of the potentiality of statistical evidence being sustained by the court; however, they alone cannot be a substantial proof to sustain statistical evidence in proving discriminatory intent in racial profiling claims.

## REMEDYING RACIAL PROFILING UNDER THE FOURTEENTH AMENDMENT ANALOGIZING PRIOR SUPREME COURT AND LOWER COURTS CASES

### Several Previous Proposals to Remedy Racial Profiling

Facing with issues associated with the illegitimate practice of *Terry*, several scholars present diverse resolutions to deal with racial profiling.<sup>97)</sup> For instance, Professor Randall Kennedy argues that the use of race even as a factor should be totally barred.<sup>98)</sup> He explains that even though some degree of racial discrimination might be rational, the danger of permitting any form of discrimination sends a wrong message to law enforcement officers and the general public.<sup>99)</sup> He points out that the nation's history of racism is so egregious that courts should bar the use of race in determining reasonable suspicion under *Terry*.<sup>100)</sup> Even though this approach seems appealing and desirable, it would be onerous to discern whether law enforcement officers conceal their true motivation in exercising the stop-and-frisk policy, and, even worse, it is expedient for law enforcement officer to improvise post hoc facially neutral rationalization as a legitimate basis for their practice.<sup>101)</sup> This apparently

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97) Professor William Carter argues that racial profiling can be remedied under the Thirteenth Amendment because racial profiling subjects racial minorities to "a badge or incident of slavery" in violation of the Thirteenth Amendment. See Carter, *A Thirteenth Amendment*, *supra* note 7, at 92. See also Professor David Harris suggests that "overturning *Terry* represents the cleanest solution to the numerous problems the case has raised from the beginning." A return to pre-*Terry* law for all searches and seizures would not put courts in a quandary "to describe the perhaps inarticulable line between a 'mere' hunch and a reasonable suspicion." However, considering that *Terry* is fundamentally a decision originating in the context of civil unrest at the time of decision and gives the police added leverage in preventing street crimes, it is hard for the Court to overturn *Terry* because the crime control rationale seems more attractive today than it was decided in 1968. See David A. Harris, *Factors for Reasonable Suspicion: When Black and Poor Means Stopped and Frisked*, 69 Ind. L.J. 659, 682-84 (1994) [hereinafter Harris, *Factors for Reasonable*].

98) See Kennedy, *Race*, *supra* note 17, at 148.

99) See *id.* at 148.

100) See Thompson, *Stopping the Usual Suspects*, *supra* note 51, at 1000 ("In essence, Kennedy embraces a form of race neutrality in police decision making and urges that public officials declare the use of race in those decisions illegal").

expected outcome is not different from what actually happens today because the Court consistently held that the police officers' reasonableness for traffic stops is not related to the actual motivations officers involved.<sup>102)</sup> Under the current law, law enforcement officers have provided race-neutral explanations for their arguably illegitimate exercise of the stop-and-frisk policy "to camouflage any cognizant reliance on race."<sup>103)</sup> Therefore, prohibiting any reliance on race might actually "encourage law enforcement officers to conceal the degree to which racial dynamics" motivated them to stop and frisk racial minorities.<sup>104)</sup>

Moreover, some scholars criticize the actual intent requirement in the racial profiling challenges.<sup>105)</sup> For example, Professor Albert Alschuler suggests that a more socially acceptable meaning of intent should substitute actual intent required by courts because even though an arguable stop-and-frisk is upheld by the court just because of lack of discriminatory intent of a law enforcement officer, any "racial classifications have an impermissible effect simply because they are not colorblind."<sup>106)</sup> He points out that law enforcement officers may not always intend the harm their racial profiling produces, but "the purpose of their classifications may be only to apprehend as many criminals as they can."<sup>107)</sup> Courts might have assumed that an impermissible effect sensed by the objects of racial profiling arise only if law enforcement officers target them with actual discriminatory intent.<sup>108)</sup> However, racial minorities perceives to be discriminated regardless of whether the law enforcement officers have actual discriminatory intent to stop them. Therefore, Professor Albert Alschuler argues that courts should adopt contextual and social meaning of intent that perceived by the objects of racial profiling, not by officers or courts.<sup>109)</sup> However, even though adopting the social meaning of discriminatory intent seems to be appealing in certain respects, "the turn to social meaning may not necessarily clarify or

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101) See Thompson, *Stopping the Usual Suspects*, *supra* note 51, at 1001.

102) See *Whren*, 517 U.S. at 813.

103) See Thompson, *Stopping the Usual Suspects*, *supra* note 51, at 1002.

104) See *id.* at 1002.

105) See Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1346.

106) See Albert W. Alschuler, *Racial Profiling and the Constitution*, 2002 U Chi Legal F 163, 212 (2002) [hereinafter Alschuler, *Racial Profiling*].

107) See *id.*

108) See *id.*

109) See *id.*

simplify this area of the law.”<sup>110)</sup> The social meaning of governmental action is often in the eye of the beholder; thus, it would be more difficult for courts to set up the clear standard of meaning of intent.<sup>111)</sup> Therefore, these two previously suggested measures against racial profiling do not seem to be practical and workable.

### Remedy Racial Profiling by Analogizing Lower Court Case, *State v. Soto*

In contrast to the Supreme Court, even after *McCleskey*, a few of lower courts have expanded the line of cases in which discriminatory intents in racial profiling cases are inferred from statistical evidence.<sup>112)</sup> For instance, in *State v. Soto*, the New Jersey Superior Court established a guideline for the type of statistical evidence sufficient to demonstrate discriminatory intent.<sup>113)</sup> The court held that “[s]tatistics may be used to make out a case of targeting minorities for prosecution of traffic offenses provided the comparison is between the racial composition of the motorist population violating the traffic laws and the racial composition of those arrested for traffic infractions on the relevant roadway patrolled by the police agency.”<sup>114)</sup> Thus, the court suggested that if reliable stop data is available and violator data can be obtained to establish a standard against which to compare the stop data, this evidence may be sufficient to demonstrate discriminatory intent.<sup>115)</sup> To find out whether the statistical evidence was reliable enough to infer the discriminatory intent, the court examined whether the data were based on adequate sample size and representativeness of the general population and whether data were collected in an independent study for the criminal defendant alleging racial profiling.<sup>116)</sup>

Using these data, the New Jersey Superior Court concluded that there was such stark evidence of discrimination, and 32.7% absolute difference in percentage of black motorists stopped versus percentage of those on the

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110) See Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1340.

111) See *id.*

112) See Whitney, *The Statistical Evidence*, *supra* note 22, at 288; see, e.g., *Soto*, 734 A. 2d at 360-61.

113) See *Soto*, 734 A. 2d at 360.

114) See *id.* at 360.

115) See *id.* at 350; see also Whitney, *The Statistical Evidence*, *supra* note 22, at 290.

116) See *Soto*, 734 A. 2d at 352.

roadways was enough to infer discriminatory intent.<sup>117)</sup> The court reasoned that the court has not inquired into “the motivation of a police officer whose stop of a vehicle was based upon a traffic violation committed in his presence.”<sup>118)</sup> Instead, the court found that “where objective evidence establishes ‘that a police agency has embarked upon an officially sanctioned or *de facto* policy of targeting minorities for investigation and arrest,’ any evidence seized will be suppressed to deter future insolence in office by those charged with enforcement of the law and to maintain judicial integrity.”<sup>119)</sup> This lower court case can guide not only the U.S. Supreme Court but also future challengers in subsequent racial profiling claims.

Some scholars argue that the New Jersey Superior Court carved an *exception* to the *McCleskey* requirement by authorizing the use of statistical evidence in proving discriminatory intent.<sup>120)</sup> However, it seems that the New Jersey Superior Court’s accepting statistical evidence in Equal Protection claim is not an exception to the *McCleskey*, but a corollary of reasonable interpretation of *McCleskey*. As mentioned in Part II, the *McCleskey* Court did not totally ban on use of statistical evidence in proving discriminatory intent but mentioned a series of earlier decisions, usually in venire-selection challenges, that had accepted the use of statistics to prove discriminatory intent.<sup>121)</sup> The *McCleskey* Court pointed out the claimant there did not have a valid and persuasive reason to use general statistical evidence to support his specific death penalty sentence because unlike to venire-selection process, imposition of death penalty in the defendant’s specific case was based on several factors, not just race of the defendant and because “the State has no practical opportunity to rebut [statistical] study”<sup>122)</sup>

However, unlike the imposition of death penalty where substantial factors of mitigating and aggravating circumstances are comprehensively considered, the decision to stop and search a suspect in *a specific case* involves fewer variables, such as appearance or evasive behavior of a suspect. The reduction in variables narrows and simplifies the claim of racial profiling, like claims in venire-selection

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117) *See id.* at 353.

118) *See id.*

119) *See id.*

120) *See* Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1346-47.

121) *McCleskey*, 481 U.S. at 294.

122) *See id.* at 286.

where the Court sustains the statistical evidence to infer discriminatory intent; therefore, the Court should suggest that statistical evidence might be sufficient to prove intentional discrimination in the racial profiling context.<sup>123)</sup>

Moreover, the decision to stop and search involves not only fewer variables than the decision to sentence to death, but also fewer decision makers, usually one or two police officers. Fewer decision makers' involvement in racial profiling renders racial profiling cases more like cases including venire-selection issue, rather than the imposition of death penalty in *McCleskey* where prosecutors, grand jurors, petit jurors, judges, and defense attorneys were involved.<sup>124)</sup> Also, because, like the decision makers in venire-selection process, police officers have an opportunity to explain and rebut the statistical evidence presented by the challenger of racial profiling by testifying in courts, it does not seem to impose any extremely heavy burden on the law enforcement officers. Giving the police officer an opportunity to rebut the statistical evidence is substantially less burden than calling jurors in a specific decision in a trial "to testify to the motives and influences that led to their verdict."<sup>125)</sup>

### Remedy Racial Profiling by Analogizing *Batson v. Kentucky*

With similar reasons of *Soto* court, some scholars argue that racial profiling as a potential form of discrimination is more analogous to the *Batson* situation involving the prosecutor's use of peremptory challenges than it is to the *McCleskey* problem of racial discrimination in the death penalty.<sup>126)</sup> In both racial profiling and the *Batson* context, the decision maker is one or more members of a criminal justice entity, such as a state patrol unit or a district attorney's office.<sup>127)</sup> The decision "to search and the decision to strike a juror peremptorily are based on a limited set of factors that identify suspects or biased jurors," and the decision makers have the ability to explain exactly why they

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123) Samuel R. Gross & Katherine Y. Barnes, *Road Work: Racial Profiling and Drug Interdiction on the Highway*, 101 Mich L Rev 651, 738 (2002).

124) See Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1347.

125) See also *McCleskey*, 481 U.S. at 286.

126) See Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1347; see also Lisa Walter, *Eradicating Racial Stereotyping From Terry Stops: the Case for an Equal Protection Exclusionary Rule*, 71 U. Colo. L. Rev. 255 (2000) [hereinafter Walter, *Eradicating Racial*]; *Batson*, 476 U.S. at 139.

127) See Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1347.

decided to stop and search a member of a certain racial group.<sup>128)</sup> With these reasons, the constitutional analysis of alleged racial profiling under an equal protection challenge would follow the three-step model of *Batson*.<sup>129)</sup> These steps under *Batson* would not eliminate the intent requirement or reverse *Washington v. Davis*; instead, “it would merely extend the *Batson* method of inferring intent to the racial profiling context.”<sup>130)</sup>

The *Batson* test establishes a three-part inquiry to determine whether the defendant could demonstrate an equal protection violation due to the prosecutor’s racially motivated actions.<sup>131)</sup> “[T]he defendant first must show that he is a member of a cognizable racial group, and that the prosecutor has exercised peremptory challenges to remove from the venire members of the defendant’s race” from the jury panel.<sup>132)</sup> Second, “the defendant is entitled to rely on the fact, as to which there can be no dispute, that peremptory challenges constitute a jury selection practice that permit ‘those to discriminate who are of a mind to discriminate.’”<sup>133)</sup> Finally, “the defendant must show that these facts and any other relevant circumstances raise an inference that the prosecutor used that [peremptory challenge] to exclude [jurors] from the petit jury on account of their race.”<sup>134)</sup> Once the defendant establishes the prima facie case, “the burden shifts to the [prosecutor] to come forward with a neutral explanation for challenging black jurors.”<sup>135)</sup> However, the prosecutor may not rebut the defendant’s prima facie case of discrimination by stating merely that the prosecutor had an assumption that the jurors of the defendant’s race would be partial to the defendant due to their shared race.<sup>136)</sup>

In the case where a law enforcement officer stops and frisks a racial minority because of his or her race, courts should hold such an illegitimate police action is unconstitutional if the defendant can establish a prima facie case and the police officer has no compelling race-neutral justification.<sup>137)</sup> Also, the

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128) *See id.*

129) *See id.*

130) *See id.*

131) *See Batson*, 476 U.S. at 96.

132) *See id.*

133) *See id.* (quoting *Avery v. Georgia*, 345 U.S. 559, 562 (1953)).

134) *See id.*

135) *See id.* at 97.

136) *See id.*

defendant must show that a police officer in fact conducted an investigatory stop of the defendant, and the police officer stopped him or her because of race.<sup>138)</sup> Then, the burden would shift to the law enforcement officer to show racially neutral reasons to justify stopping and frisking a particular defendant.<sup>139)</sup> As under *Batson*, the law enforcement officers cannot meet this burden by stating merely that they do not discriminate racial minorities or racial minorities are considered to be more likely to commit a crime based on their past experience, not on objective and empirical data.<sup>140)</sup> A claim that the defendant engaged in a minor traffic violation, which was upheld in *Whren*, would not overcome a police officer's burden of establishing a race-neutral justification for the stop.<sup>141)</sup> This is especially true if the defendant presents statistical evidence to the contrary, and law enforcement officers must show that “they would have pulled over a white defendant under the same circumstances”<sup>142)</sup> or present evidence that “race is a statistically significant predictor of crime and that racial profiling satisfies the limited conditions that make it constitutionally acceptable.”<sup>143)</sup>

The *McCleskey* requirement of proof of actual intent fails to recognize that the police are intentionally using race, and this failure is recognized by the not only by several scholars but also a few lower courts.<sup>144)</sup> The question should be whether the police have a constitutionally satisfactory reason for using race that justifies the disproportionality because as mentioned in Part I, the constitutionality of a specific stop-and-frisk practice has been decided on whether the contested practice is within the boundary of reasonable suspicion; thus, the constitutionality of racial profiling depends on whether race can be a legitimate stimulus for a law enforcement officer to have reasonable suspicion. However, requiring proof of actual intentional discrimination by a law enforcement officer from the challenger places the burden on the wrong party.<sup>145)</sup> If the law enforcement officer engages in discrimination by stopping and frisking a disproportionate

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137) See Walter, *Eradicating Racial*, *supra* note 126, at 290.

138) See *id.* at 291.

139) See also *Batson*, 476 U.S. at 97.

140) See *id.*

141) See Walter, *Eradicating Racial*, *supra* note 126, at 291.

142) See *id.*

143) See Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1347-48.

144) See *id.* at 1348; see, e.g., *Soto*, 734 A. 2d at 359-61.

145) See Harcourt, *Rethinking Racial Profiling*, *supra* note 38, at 1348.

number of racial minorities, then the officer should have the burden of proving that his action is supposed to promote a compelling state interest.<sup>146)</sup> Barring that proof, the disproportionate stop-and-frisk practices are intentionally discriminatory and should be held to violate the Equal Protection Clause.<sup>147)</sup>

## CONCLUSION

In *Whren*, the Supreme Court foreclosed relief against racial profiling under the Fourth Amendment by ignoring the effects of racial motivation and declaring that the subject of racial motivation is irrelevant to Fourth Amendment analysis.<sup>148)</sup> The Court has “underestimated the extent to which racial factors affect an individual officer's perceptions, memory, and reporting, transforming what may be innocent behavior into indicia of criminality and the basis for a search or seizure.”<sup>149)</sup> The Court also has seriously “underestimated the propriety of treating racial targeting as a type of harm the amendment was intended to avert.”<sup>150)</sup> Even though the *Whren* Court suggested that the Equal Protection Clause is a more appropriate avenue to challenge racial profiling, courts have rarely upheld claims against racial profiling supported by claimants’ statistical evidence because statistical data has been deemed not to be strong enough to permit a finding of discriminatory intent.

However, as the New Jersey Superior Court established a guideline for the type of statistical evidence sufficient to demonstrate discriminatory intent, and as the *Batson* Court shifted burden of proof to the state when a challenger presents a statistical discrepancies in the race of persons preempted from a jury panel, a challenger against racial profiling should be allowed to statistical evidence to prove discriminatory intent of a law enforcement officer. Also, “given the recent proliferation of databases and the development of sound statistical methodologies to detect racial profiling, courts should reconsider their stance on the use of statistical evidence to prove discriminatory intent.”<sup>151)</sup> Strong statistical associations

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146) *See id.*

147) *See id.* at 1348.

148) *See Whren*, 517 U.S. at 806.

149) *See Thompson, Stopping the Usual Suspects, supra* note 51, at 1012.

150) *See id.*

between suspects' race and frequency of stops in the racial group should support an inference of discriminatory intent.<sup>152)</sup> By analogizing the rationale in *Soto* and the three steps established by the *Batson* Court, the Court would protect racial minorities from being impermissibly targeted by law enforcement officers by giving more strong and clear message to the law enforcement officers. To effectively signal their rejection of racially biased law enforcement practices, it is essential that courts stand behind an absolute and bright-line prohibition of the use of race in stopping and frisking a person.<sup>153)</sup>

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151) See Whitney, *The Statistical Evidence*, *supra* note 22, at 299.

152) See *id.*

153) See Walter, *Eradicating Racial*, *supra* note 126, at 293.

# A Comprehensive Explanation of Three Factors for Cyberbullying with Smartphones

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## Abstract

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To explain the cyberbullying with smartphones among college students in Korea, this study classifies the extant major causal processes with three factors of individual propensity, social environment, and opportunity each of which are extracted from three major theories of self-control, social learning and opportunity respectively. Furthermore, this study attempts to grasp both main effects and interaction effects among these selected theories, expecting that cyberbullying will be thoroughly explained when we consider the systematic and comprehensive composition of these main effects and interaction effects simultaneously. As a result of analyzing 301 college students in Seoul, Korea, the three major effects derived from individual propensity, social learning and opportunity are confirmed to exert significant effects upon cyberbullying. In addition, it is shown that all interaction effects between each two variables appeared to be statistically significant. However, the results including all interaction effects among major factors show that the interaction effect between low self-control and the perceived opportunity appeared to be statistically significant, while the other interaction effects among the rest of independent variables appeared to be statistically insignificant. Despite the limited effects of two-way interaction among included factors, we learned that we still need to consider both main effects and interaction effects simultaneously to thoroughly understand the subtle processes of cyberbullying in Korea.

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## Keywords

Cyberbullying, Smart Phone, Low Self-control, Social Learning Factor, Opportunity, Comprehensive Explanation

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## INTRODUCTION

Smartphone is a routine medium such that almost every youth or college student holds one personally in Korea. With the advent of smart phone, they become more eager to get one as a major mobile device utilizing more advanced functions within it. With the advent of computer and internet, a phenomenon of cyber dysfunction has emerged rapidly, and among those dysfunctions, vexation of cyberbullying has become one of the most routine but serious deviant behaviors (Willard, 2006). From time to time, they even commit suicides suffering from the malicious offending of cyberbullying in such a way that it terrifies the whole nation of Korea with shock and dismay. With the growth of smart phone usage among youths, the earlier types of bitter and malign internet reply evolved from naive form of negation or refusal to more destructive and poisonous cyberbullying within everyday routine activities (Lee, 2014). Furthermore, under the service of special apps provided by mobile messenger company such as Kakao, there is virtually no limit to the number of messages which can be sent with a smartphone. Out of this huge number of text exchanges, a non-negligent portion is covered with reckless swearing, slandering and even cyberbullying. If this is the case, who on earth are committing these kinds of cyberbullying and why are they doing them? This study starts from these questions and focuses on revealing the causes of such violent cyberbullying behaviors.

Unlike the violence in the internet with extended network of unknown people, the violence in the smartphone connections is different from the malignant internet comments in that it can occur within a limited range of close interpersonal connections such as friends, peers and acquaintances along the everyday routine activities. It also tends to occur easily due to the traits of such media that those devices can be easily reached, conveniently carried and immediately utilized for communication as they are part of routine lives. Cyberbullying is getting impulsive and uncontrollable more and more as they tend to carry the phones almost any time in their routine activities.

In this regard, it is necessary to reveal the complicated processes of cyberbullying in Korea where smartphones begin to be the most rapidly permeating devices. This study focuses on three major factors of cyberbullying

such as individual low self-control, social learning from friends, and the opportunity. Each of them corresponds to the three theoretical perspectives such as individual propensity factor, social-environmental factor and opportunity factor. These factors are not only dealt with independently, but also simultaneously in that we are not only interested in the individual main effects but also interested in the combined interaction effects among three factors upon the outcome.

In sum, to reveal the etiology of cyberbullying with smartphone, it will review the individual traits, social learning process and opportunity factor based on the theoretical consideration and try to test such an comprehensive and integrated approach through empirical research with collected data.

## THEORETICAL BACKGROUND

### Three Major Factors

In general major theories utilized in recent research on crime can be summarized into three perspectives. First, general theory of crime by Gottfredson and Hirschi (1990) focuses on the individual stable characteristics. It regards low self-control as the most critical factor for crime. Second representative theory stresses the social environment as is the case with differential association/social learning theory (Surtherland, 1947; Akers, 1977), social control theory (Hirschi, 1969) and strain theory (Agnew, 1992). Thus all the crime learning from the pro-crime environment, the social bond with that environment and the strain from the surrounded environment are causes of anti-social criminal behavior. Third theory focuses on situational and opportunity factors of crime outbreak rather than the individual propensity or social environmental traits such that it emphasizes the role of opportunity for crime (Cohen & Felson, 1979).

### Individual propensity factor

As a representative theory of individual characteristics, the general theory of crime by Gottfredson and Hirschi (1990) focuses on the fact that most of the deviance and crime is likely to take place out of extemporaneity and impulsivity for the immediate satisfaction of the perpetrator. Thus, an internal trait which

can distinguish normalcy from deviancy is one's ability to control his/her immediate satisfaction and impulsivity, which is so-called self-control. Self-control is constructed by child-rearing practices in childhood and wages a significant role for the explanation of crime as a consistent and stable propensity for the rest of lives.

The impact of low self-control on criminal behaviors has been largely supported by previous research for a long period of time (Pratt & Cullen, 2000; Rowe et al., 1990; O'Brien et al., 1999). Given that any types of crime and deviance can be easily explained by the low self-control, it would also be a significant predictor for the cybercrime and cyberbullying (Higgins, 2005; Buzzel et al., 2006; Bhat, 2008; Malin & Fowers, 2009; Nam & Kwon, 2013). Furthermore, the role of low self-control can be maximized in the context of cyberspace where none-face-to-face contact and anonymity are prevalent. It is a lot simpler and easier for perpetrators to commit a crime in the cyberspace than in the real space because of anonymity. In addition, unlike the reality, potential perpetrators pursue immediate satisfaction and behave impulsively as they feel low levels of conscience or guilty feeling and there are low possibility of detection and punishment. In the similar vein, youths with low self-control are more likely to commit cyberbullying.

### **Social learning factor**

Current sociological theories stress the role of factors surrounding youths such as family, school, friend and community. Out of social-environmental theories, differential association/social learning theory has been one of the most largely supported theories by empirical data analysis. Both theories argue that association with friends who are favorable to crime can be a cause of crime as youths learn the values and attitude favorable to law-violation.

Social learning factor has been largely supported in the differential association/social learning theory as it turned out to be the most important factor leading to criminal behavior in various studies (Matsueda, 1982; War & Stafford, 1991). In addition, those who contact with delinquent friends and learn deviant behaviors from them are more likely to commit cybercrime or cyberbullying than those without such friends (Skinner & Fream, 1997; Becker & Clement, 2006; Nam & Kwon, 2013; Kim, 2013; Lee & Jun, 2015). The role of delinquent

friends would be more salient in the cyberbullying context, because smartphones would be a mediating tool which is routinely carried out, routinely utilized to connect with friends, routinely used to communicate with friends and routinely influenced by connected friends. In this context, it is highly likely that one is easily seduced to commit a crime when he/she has deviant friends who are connected with each other through a smartphone.

### **Opportunity factor**

While the major extant theories of crime are based on the positivism emphasizing the individual propensity or environmental characteristics, the classical school of criminology focuses on the situational context and conditional opportunities to commit crime rather than individual traits. That is, the discussion about the opportunity factor derives from the classicism in that decision-making of criminal behavior is based on the rational choice out of various opportunities for crime. For example, lifestyle theory (Hindelang et al., 1978) noted that the exposure to opportunity for crime is the main cause of crime occurrence, while the routine activity theory (Cohen & Felson, 1979; Miethe & Meier, 1994) proposed that the conditions for crime should be ripened with three factors such as suitable target, motivated offender and the absence of capable guardianship. These theoretical implications can be applied to the cybercrime research in that cybercrimes are more likely to occur when there are more opportunities to commit them (Yar, 2005; Holt & Bossler, 2009; Lee, 2010).

Smartphones appear to be the media devices that provide potential criminals with tremendous opportunities to commit crime. Transportability, mobility, clandestinity, multiplicity (multi-connectivity) of smartphone help people connect to a certain object anytime, anywhere, privately in huffer-mugger (Oksman & Turtiainen, 2004). These traits of smartphone make people easily grasp criminal opportunities without reference to the personal propensities to crime. Thus, transportability, mobility, clandestinity, and anonymity of smartphone can be exploited to precipitate the cyberbullying independently from individual characteristics.

### **The Merged Operation of Three Factors**

The three factors of low self-control, social learning and opportunity exert

not only separate but also integrated influences on crime. Each of three factors is important individually for inducing criminal behaviors but when each of them is merged with each other, the leverage to criminal behavior increases dramatically. The following research provides some basis for such an merged approach of above mentioned three factors.

### **Low self-control and opportunity**

While the general theory of crime regards the low self-control, an inner disposition developed in early childhood, as the major causes of crime. Gottfredson and Hirschi did not admit that the low self-control is the only and unique factor for crime. Trying to integrate the ideas of classical and positivistic schools of criminology in their writings, they stressed that both of low self-control and criminal opportunity should be present simultaneously as necessary and sufficient conditions for crime (1990: 22-24). In other words, even a person with low self-control does not necessarily commit a crime unless he can find proper circumstances to execute his uncontrollable inclination.

So far, in the context of the general theory of crime, most of the researchers have focused only on the effects of low self-control in the process of testing their theory, even if the general theory itself stresses both low self-control and opportunity at once in the discussion of theoretical consideration. However, some researchers proposed that low self-control and opportunity should be coupled together in testing the general theory of crime and, more recently, it tends to be supported that an integrational approach is necessary in the discussion of low self-control and opportunity (Longshore, 1998; LaGrange & Silverman, 1999; Smith, 2004; Hay & Forrest, 2008; Lee, 2010). Thus, in the context of cyberbullying, low self-control explains the cyberbullying not only alone but also in combination with the opportunity factor of smartphones utilization. That is, youths with low self-control are more likely to commit cyberbullying when they have opportunities of carrying the phones and using them illicitly or clandestinely.

### **Low self-control and social learning factor**

In addition, the general theory of crime can also be integrated with the

social learning approach. The general theory of crime negates the role of such effects as association with delinquent friends in the developmental stage suggested by differential association/social learning theory, because it takes self-control formed in early stage of child development to be the major explanatory cause of crime and deviance. However, later research shows that association with friends besides self-control constitutes the major explanatory factor for crime and lots of researchers criticize the view that deviance and crime can be largely explained by a propensity developed in the early stage of childhood (Paternoster & Brame, 1997; Baron, 2003; Chapple, 2005).

Upon the view that individual propensity formed in early childhood and social environmental factor such as delinquent association are all necessary-sufficient condition for crime, conclusion is reached that the explanatory power gets larger when there is a theoretical integration between general theory and differential association/learning theory. The representative scholars who referred to the necessities of integrating low self-control and delinquent association were Wright and colleagues (1999). Such findings are supported by several studies (Longshore & Turner, 1998; LaGrange & Silverman, 1999; Meldrum et al., 2013; Hirtenlehner et al., 2015). Some studies show that there are interaction effects between low self-control and social learning variables such as differential association with delinquent friends on online digital piracy (Higgins & Wilson, 2007; Hinduja & Ingram, 2008). More recently, Holt and colleagues (2012) suggested in their study of cybercrime that low self-control is not only mediated through the effect of deviant friends but also interacted with the effect of deviant friends resulting in larger effect on crime. Upon these considerations, we presume that low self-control is likely to exert more effect on cyberbullying when it is incorporated with social learning factors in an integrated manner.

### **Social learning and opportunity factor**

In addition, even if there is not enough research yet, the combination of social environmental factor such as social learning and opportunity might be a necessary-sufficient factor for crime in a near future. If youths are surrounded by an abnormal environment inculcating deviant values and attitudes, they probably deviate more easily when situational opportunities for crime are fully conditioned. Some researchers do not differentiate the social environmental factor and

opportunity as the association with delinquent friends might be regarded as an opportunity for crime (Longshore & Turner, 1998). However, the concepts of social environmental factor and opportunity are theoretically different with each other in that while delinquent association is a social environmental factor helping youths learn criminal behavior on a relatively long term basis, opportunity is situational temporary conditions helping youths commit crime more easily and quickly. In addition, as there are some studies showing that delinquent association and opportunity have interaction effects with each other (Haynie & Osgood, 2005), the social environmental factors such as delinquent association should be dealt with in the discussion of integration with opportunity factor. If this is the case, the learning factor of delinquent association exerts more strong effect on crime when it is combined with opportunity factor such as smart phone characteristics. That is, those who associate with cyberbullying friends tend to commit more cyberbullying not only by association itself, but also by the very characteristics of smartphone itself.

## HYPOTHESIS AND RESEARCH METHOD

### Hypothesis

This research is focused on three factors - individual propensity factor, social learning factor and opportunity factor - to figure out their effects on cyberbullying. Low self-control as an individual propensity factor, number of cyberbullying friends as a social learning factor and finally the perceived opportunity of cyberbullying as an opportunity factor were considered to find their effects on cyberbullying.

Based on the prior discussion, let us suggest the following hypotheses.

HT 1: The lower the self-control is, the more cyberbullying they commit.

HT 2: The more cyberbullying friends they have, the more cyberbullying they commit.

HT 3: The higher the perceived opportunity of cyberbullying is, the more cyberbullying they commit.

In addition to the independent main effects of these three factors, we

assumed that there must be specific interaction effects among these factors as their necessary and sufficient conditions appear to be mixed together. Based on this discussion, we added the fourth hypothesis on the interaction effect between low self-control and number of cyberbullying friends, the fifth hypothesis on the interaction effect between low self-control and opportunity perception, and finally the sixth hypothesis of interaction effect between number of cyberbullying friends and opportunity perception.

HT 4: Low self-controlled youths are more likely to commit cyberbullying when the number of delinquent friends with cyberbullying experience is high. That is, the interaction effect between low self-control and cyberbullying friends will be positively significant.

HT 5: Low self-controlled youths are more likely to commit cyberbullying when their perceived opportunity is high. That is, the interaction effect between low self-control and opportunity perception will be positively significant.

HT 6: Youths with cyberbullying friends are more likely to commit cyberbullying when their perception of opportunity is high. That is, the interaction effect cyberbullying friends and opportunity perception will be positively significant.

To test the hypotheses, we analyzed our data with SPSS PC 18.0 using multiple regression analysis targeting the cyberbullying as our dependent variable.

### **Research Methods and Measurement**

This research surveyed the college students as they appeared to be the most frequent users of smartphones. The study population of this study is the subset of students attending 4-year-course colleges and universities in the metropolitan city of Seoul. Out of the study population, we waged a two-stage sampling process selecting 5 colleges first and drew about 60 students from each college reaching 304 people in total. The survey was waged for two weeks in July, 2018 and the total number of questionnaires taken back from selected students was 304, but one was excluded due to untrustworthy responses. Out of these 303 students, only 301 of students appeared to have smartphones, and we

analyzed only these students who had smartphones.

The included variables are measured as follows. First of all, the dependent variable of cyberbullying, based on the study of Willard (2006), was measured by insult/defamation, sexual harassment and stalking, which are the most representative cyberbullying activities in Korea. We combined the following three dummy questions based on their experience of each item, 1 if yes and 0 if no. The questions are 1) whether they have sworn to or insulted someone or spread false rumor or information about someone, 2) whether they have sexually harassed someone, and 3) whether they have repeatedly stalked someone, during the last 1 year.

Next, each of the three independent variables represents individual traits, learning process and opportunity. First of all, individual traits are measured by low self-control based on the study of Grasmick and colleagues (1993). Their original six traits are 'impulsivity, simple tasks, risk seeking, physical activity, self-centered, and temper'. We asked two questionnaire items for each of the six traits utilized in Grasmick and colleagues resulting in 12 items in total. Each of them was measured in 5-point Likert scale ranging from "never agree" to "very agree" and their reliability was high ( $\alpha=.832$ ). The impulsivity was measured by two items of 'I am more likely to behave on impulse' and 'I tend to act on the spur of the moment without thinking what would happen later.'

Second, the learning process is measured in the context of association with friends who have an experience of cyberbullying. It was measured by three items of number of friends who have experiences of following cyberbullying activities: 1) swearing to or attacking someone or spreading false rumor or information, 2) experiences of harassing someone sexually, and finally 3) experiences of stalking someone repeatedly.

Third, opportunity was assessed by perceived opportunity of cyberbullying. We use three questions, 'I have many opportunities to commit cyberbullying with my smartphone', 'I can easily do cyberbullying with my smartphone wherever the place is while I carry it', 'I can use my smartphone furtively with anonymity in committing cyberbullying'. Each of them was measured in 5-point Likert scale ranging from "never agree" to "very agree" and their reliability was high ( $\alpha=.792$ ).

Finally, the controlling variables in this research are demographic variables

such as gender and age. Gender has two categories of 'male' and 'female', age was measured from 18 to 28.

## RESULTS

<Table 1> shows the socio-demographic traits of respondents. Gender distribution was evenly measured between male and female such that the former was 149 (49.5%) and the latter was 152 (50.5%). Age distributed from 18 to 28 and its mean score was 21.48. 22 was the mode with 56 (18.6%).

Table 1. Socio-Demographic Traits

	Classification	Frequency	Rate(%)
Gender	Male	149	49.5
	Female	152	50.5
Age	18-years-old	23	7.6
	19-years-old	35	11.6
	20-years-old	48	15.9
	21-years-old	43	14.3
	22-years-old	56	18.6
	23-years-old	48	15.9
	24-years-old	25	8.3
	25-years-old	12	4.0
	26-years-old	10	3.3
	27-years-old	0	0
	28-years-old	1	0.3
	Total	301	100

Before we get to the major data analysis, we reviewed an overall distribution of the number of smart phone cyberbullying, which appears in <Table 2> such that while 'violent attack' was experienced by 35 youths (11.6%),

'sexual harassment' was experienced by 22 youths (7.3%) and 'stalking' was experienced by 12 youths (4.0%).

Table 2. Frequency of Cyberbullying Experiences

Cyberbullying	Number of youths	%
Violent attack	35	11.6
Sexual harassment	22	7.3
Stalking	12	4.0

<Table 3> shows the descriptive statistics of major variables in the study. The mean score of low-self-control as an individual trait with a range of 12-51 was 34.173, while that of the number of cyberbullying friends as a social-learning factor with a range of 0-3 was as low as .573. The mean score of the perceived opportunity factor with a range of 3-15 was 9.037. The mean score of number of experiences of cyberbullying, which is the dependent variable, for the last 1-year with a range of 0 to maximum of 3 appeared to be as low as only .229

Table 3. Descriptive Statistics of Major Variables

Variables	Mean	S.D.	Range
Low Self-control	34.173	7.573	12-51
# Cyberbullying Friends	0.573	0.924	0-3
Opportunity	9.037	3.488	3-15
# of Cyberbullying	0.229	0.592	0-3

<Table 4> shows the results of multiple regression analysis waged to test the hypotheses upon the dependent variable of smartphone cyberbullying. Based on the OLS (Ordinary Least Square) method, it compares the differentiated effects of individual propensity factor, social learning factor and opportunity factor upon cyberbullying. Results shows that hypothesis 2 presuming the highest effect ( $\beta=.399$ ) of cyberbullying friends as a social learning factor was supported at the significance level of  $p<.001$ . The next one is individual propensity factor supporting the hypothesis 1 in such a way that the effect of low self-control effect appeared to be significant at the level of  $p<.001$ . And opportunity factor was significant at the  $p<.001$  level supporting the hypothesis 3.

As for the controlling variables, gender was significant in such a way that male appeared to commit significantly more cyberbullying at the level of  $p < .05$ , while the effect of age was not significant at all.

In addition, the second to fourth analyses of <Table 4> show the results of the interaction effects among the three factors. The second result shows that the interaction effect between low self-control and cyberbullying friends appeared to be statistically significant at the level of  $p < 0.05$  supporting the hypothesis 4. The third result also shows that the interaction effect between low self-control and the perceived opportunity was statistically significant at the level of  $p < 0.001$  supporting the hypothesis 5. The fourth result reveals that that the interaction effect between cyberbullying friends and the perceived opportunity was also statistically significant at the level of  $p < 0.01$  supporting the hypothesis 6.

Table 4. Multiple Regression of Three Factors upon Cyberbullying(N=301)

Ind.Var	DV: Cyberbullying									
	(1)		(2)		(3)		(4)		(5)	
	B	B	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$
Male	-.146*	-.123	-.132*	-.111	-.105	-.089	-.157**	-.132	-.111	-.093
Age	.024	.083	.024	.085	.032*	.110	.023	.079	.030*	.104
Low Self-control	.015***	.188	.014***	.177	.014***	.004	.014***	.184	.014***	.176
Cyberbullying Friends	.256***	.399	.227***	.353	.245***	.382	.232***	.362	.218***	.339
Opportunity	.030***	.177	.031***	.180	.033***	.196	.029***	.172	.033***	.192
LSC*CF			.010*	.127					.005	.059
LSC*Opp					.004***	.212			.004***	.186
CF*Opp							.022**	.129	.014	.082
Adj R Square	.348		.359		.389		.361		.396	
F	32.670***		28.739***		32.522***		28.952***		25.328***	

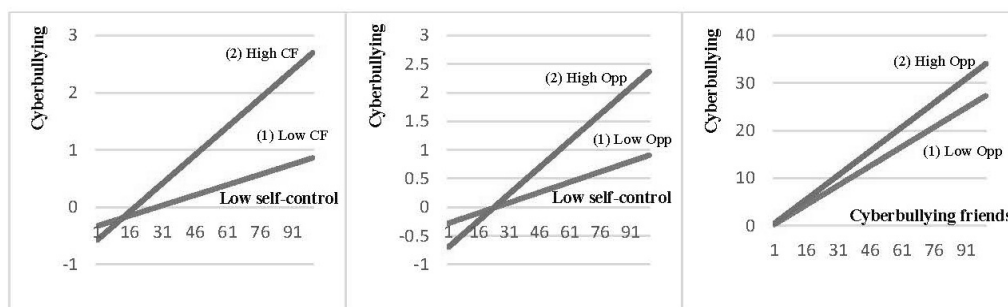
\*= $p < .05$ ; \*\*= $p < .01$ ; \*\*\*= $p < .001$

Upon the outcome of <Table 4>, we need to analyze the interaction effect on cyberbullying more in detail to understand the true meaning of interaction effect itself. To begin with, we divide the score of cyberbullying friends into low (1) and high (2) based on the mean score, and for each case we reran a

regression analysis with the independent variable of low self-control. In the case of low (1) cyberbullying friends, the regression equation was  $y=-0.341+0.012x$  and the effect of low self-control appeared to be statistically significant. Also in the case of high (2) cyberbullying friends, the regression equation was  $y=-0.607+0.031x$  and effect of low self-control appeared to be significant too. Notably, as <Figure 1> shows, this result approves the hypothesis 4 arguing that youths with low self-control are more likely to commit cyberbullying when they have high cyberbullying friends.

In a similar manner, when we classified opportunity into low (1) and high (2) with an independent variable of low self-control, the results of regression analysis are as follows. First in case of low opportunity (1), the regression equation appears to be  $y=-0.293+0.012x$  and in the case of high opportunity (2), the equation was  $y=-0.729+0.031x$ . And results show that the effects of low self-control were statistically significant on both cases of low and high opportunity. Especially, as <Figure 2> shows, this result approves the hypothesis 5 revealing that low self-controlled students are more likely to commit cyberbullying when their perceived opportunity is high.

In addition, in the case of classifying opportunity into low (1) and high (2) and waging regression analysis with an independent variable of cyberbullying friends, as <Figure 3> shows, the regression coefficient for the first case was  $y=-0.001+0.273x$  while that of the second case was  $y=0.105+0.339x$  such that both cases had statistically significant effects of cyberbullying friends. Particularly, results show that youths with cyberbullying friends are more likely to commit cyberbullying when they have high perception of opportunity.



- e. <Figure 1> Regression of low self-control upon cyberbullying conditioned by by cyberbullying friends  
 f. <Figure 2> Regression of low self-control upon cyberbullying conditioned opportunity  
 g. <Figure 3> Regression of cyberbullying friends upon cyberbullying conditioned by opportunity

On the other hand, the fifth analysis result of <Table 4> including all three interaction effects among major factors testing the integrated hypotheses shows that only the interaction effect between low self-control and the perceived opportunity appeared to be statistically significant at the level of  $p < 0.001$ , while the other two interaction effects among the rest of independent variables appeared to be statistically insignificant.

## DISCUSSION AND CONCLUSION

This study examined the effects of individual propensity factor, socio-environmental factor and opportunity factor, each of which is an important factor from three main theories, upon the smartphone cyberbullying behaviors of Korean college students. To test the hypothesis, we measured low self-control, social learning (cyberbullying friends) and opportunity out of above three factors. Furthermore, this study is focused on the integrated effect of three factors in such a way that each factor would exert not only the separate main effect but also the combined interaction effects as necessary conditions in the explanation of cyberbullying behavior.

The study results are shown in <Table 4> where the effect of social learning factor such as cyberbullying friends appeared to be the largest at the significance level of  $p < .001$ , the next was low self-control at the level of  $p < .001$ , and the last was the perceived opportunity at the level of  $p < .001$ . Upon these outcomes, we can conclude that the cyberbullying behaviors are affected by all three factors of individual propensity factor, social learning factor and the opportunity factor each of which are derived from three major theories respectively and an integrated perspective with these three theories is necessary to fully understand the mechanism of smartphone cyberbullying.

As the tables showed, this study also revealed that not only the main effect on the cyberbullying behavior, all interaction effects between each two independent variables appeared to be statistically significant. This outcomes support the integrative hypotheses. That is, the youths with low self-control tend to commit more cyberbullying behavior when opportunity or cyberbullying friend provides more advantageous situation or environment for cyberbullying. In

addition, it is shown that college students with cyberbullying friends tend to commit more cyberbullying behavior when opportunity provides more advantageous situation.

However, an analytic outcome including all interaction effect in a model showed that the interaction effect between low self-control and opportunity factor appeared to be statistically significant. However, some of the study prediction did not appear to be supported in that the interaction effect between low self-control and social learning factor and the interaction between social learning factor and opportunity factor came to be insignificant. This outcome supports the integrative argument of Gottfredson and Hirschi in that low self-control tends to work along with opportunity factor.

Extant studies don't find any interaction effect as there are so many inconsistent studies showing different outcomes on the interaction effect. For example, Holt and colleagues (2012) suggest that the effect of low self-control tends to work more for youths who have more delinquent friends showing that the interaction effect is working, while there is a study showing that low self-control work more for youths who have less delinquent friends (Medrum et al., 2009) which is contrary to the outcome of former study, and even another study found that their interaction effects are not significant at all (McGloin & Shemer, 2009). What it means is that the original discussion of integration within the realm of general theory of crime was supported while the further discussion of theoretical integration was not supported.

In these regards, we learned that it is necessary to consider not only the main effects of low self-control, social learning factor and opportunity factor but also the interaction effect among them to grasp the better understanding of cyberbullying behavior, at least in Korea. So, we have tried to investigate not only the main effects, but also the interaction effects among independent variables. However, it is still limited in that it does include only the two-way interaction among the three excluding the three-way interaction covering all three variables simultaneously. In that sense, we still need to delve into the details of interaction effect among the three factors to build a more comprehensive model of integration. This study is also limited in that the sample of students from 5 colleges are not enough to represent the Korean college students and generalize the results to the population. In addition, further detailed analysis considering the

effects of time order between cyberbullying and delinquents friends would be necessary. Despite these limitations, this study is still valuable in that it delves into the complicated mechanisms of main effects and interaction effects among the three major criminological theories to understand the cyberbullying of Korean college students. At this time, this study is limited to the violence within the purview of cyberbullying, but we expect more active and expanded study upon diverse types of violent behavior in the future. Also, more expanded study upon cyberbullying is highly recommended.

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