

# International Journal of Criminal Justice

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In Sup Han, Jeongsook Yoon

Invitation Article: Criminal Justice and Human Dignity in Constitutional  
Adjudication

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# INTERNATIONAL JOURNAL OF CRIMINAL JUSTICE

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## JOURNAL DESCRIPTION

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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.

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# Editorial: Inaugural Issue of *International Journal of Criminal Justice*

*In Sup Han, Ph.D, Founding Editor*  
*Jeongsook Yoon, Ph.D, Editor-in-Chief*

We are extremely pleased to write this editorial for the first issue of The International Journal of Criminal Justice. An idea of establishing an internationally renowned, peer-reviewed academic journal in the field of criminal justice has begun in earnest early this year, which marked the 30th anniversary of the founding of the institute.

This field-defining journal represents the strong commitment of KIC to evidence-based research. We firmly believe that evidence-based research can help support objective, non-partisan, and informed policymaking decisions on policies, legislations and institutions and uphold the universal norms and principles of human rights and democracy. With the orientation, the journal intends to serve as an international platform for actively discussing not only crucial theoretical constructs in the field, but also many practical issues with real-world implications.

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. It is hoped that our Editorial Board comprised of a team of international and interdisciplinary experts with a wide range of interests and expertise helps attract famed scholars and practitioners from all corners of the world to submit their works for publications.

On a final note, we would like to thank all of those who are involved in helping make this journal a reality. Our special thanks go to the Editorial Committee and Managing Editor, Seung Jin Lee who showed much dedication to preparing editorial rules and policies. We welcome any comments or productive suggestions from readers and experts likewise. Thank you.

# Criminal Justice and Human Dignity in Constitutional Adjudication

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Yi-Su Kim\*

*Former Justice of the Constitutional Court of Korea,  
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## Constitutional Law and Human Dignity

Constitutional adjudication carries out the function of state authority in protecting a constitutional value of human dignity as commanded by the Constitution. Human dignity, being the highest constitutional value, acts both as a standard and a guide to the interpretation of the Constitution and all legal norms. Human dignity not only serves as a standard and a guide to the interpretation of unenumerated fundamental rights and the guarantees of individual rights, but also has significance in meaning as the limitation of the fundamental rights, for it entails prohibition of justifying infringements of human dignity on the basis of public interests.

Human dignity is a constitutional expression that defines the fundamental attributes of human beings. The concept of human dignity can only be illuminated through the fundamental nature of human beings as follow: humans are possessed of independent and ethical characteristics based on reason; humans cannot live in solitude and without a relationship in society. The Constitution preordained a human being living an associated and bounded life with the society, yet maintaining his or her innate characters. Such a concept of human beings is basic knowledge for understanding human dignity as the limitations on fundamental rights. It is assumed that every human being is equally endowed with human dignity as a latent human trait regardless of his or her status as an offender or a prisoner.

Probing constitutional cases, one can get closer to the true nature of human

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\* This paper originally written by Former Justice Kim was presented at the keynote session of the Korean Institute of Criminology International Forum 2019 in Seoul, Korea.

dignity, that is respect of human beings for their sake and objection to treating human beings as a means or an object to achieving some other values, purposes, or interests. In particular, with relation to human dignity, landmark constitutional cases in the realm of criminal justice can be classified into three categories, which are (a) preservation of the human personality (b) self-determination, and (c) bodily integrity in close relation to the human personality. The thesis of this paper submitted for the Korean Institute of Criminology International Forum marking the 30th anniversary of the founding of the institute is limited to the realm of criminal justice.

### **Duality of Criminal Justice and Human Dignity**

In the realm of criminal justice, human dignity has significance as a guide for the enactment, application, and enforcement of criminal law. Ironical dualities nevertheless characterize criminal justice as it relates to human dignity; the state's exercise of its right to punish crime for maintaining social order and protecting human dignity can itself pose a grave threat to the human dignity of criminal suspects, criminal defendants, and prisoners.

Constitutional provisions on human dignity prohibit the state authority from enacting criminal legislations that infringe upon human dignity. The provisions make it illegal for the state authority to regulate, through criminal punishment, even unethical behaviors unless they do not fall within the scope of an individual's private life or pose a significant harm to the society or violate the rights of others. They also prohibit cruel punishments. No punishment of acts forbidden and punishable by the general and special parts of the criminal law shall infringe upon the human dignity of offenders. Meanwhile, the criminal punishments shall not be contrary to the dignity of victims.

Nowadays, in addition to criminal punishments prescribed by the criminal law, the state imposes many other types of criminal sanctions known as protective security measures. In order to address sexual assaults, especially those perpetrated against children the state, during the period from 2005 to 2010, enacted a series of punitive sanctions including registration, disclosure, and notification of identities of sex offenders, electronic monitoring, and medical therapy for impulsive sexual behaviors. The state also established the DNA databank to use genetic information for criminal investigations.

Although the protective security measures can serve a useful and necessary role

in addressing the limitations of criminal punishments, they shall not be imposed under unprincipled discretion. The measures ought to be imposed within the confines of human dignity. For this reason, the Constitution proscribes simply treating human beings as tools for combating or preventing crime or for the protection of social order as well as imposing inhumane criminal sanctions. The basic principles of the rule of legal system are due process of law, *nullum crimen sine lege*, *nulla poena sine lege*, the principle of proportionality, the principle of excessive restriction, and the common law doctrine of estoppel.

The addenda to criminal legislation that prescribe such protective security measures can lead to their extensive and retrospective applications. The imposition of electronic monitoring or collection of DNA data is such instances. In an instance where the addenda violate the prohibition on retrospective applications of legislation or otherwise enforcement with unlimited retroactivity, constitutional issues relating to the common law doctrine of estoppel and infringement of fundamental rights would arise. Therefore, the Court ought to decide whether the protective security measures are excessive by weighing the values and extents of the rights infringed by the extensive retrospective measures against public interests pursued in their legitimate aims.

Human dignity neither allows employment of torture or any cruel conduct in the investigation process nor the media footage of the suspects. Human dignity also rules that in any criminal prosecution trials, confessions are inadmissible unless they are voluntarily given.

Human dignity also prescribes that offenders be treated humanely in the execution of punishments and treatment of offenders. Therefore, offenders ought to be placed in the confinements that meet the basic needs for survival. The employment of protective equipment should be limited to afford offenders a dignified and a minimum level of decent living.

People in undertaking their day-to-day life or economic activities are sometimes in contact with the criminal justice system. Their experiences may lead to constitutional complaints alleging infringement upon human dignity. The judicial review of the Constitutional Court in these cases is not limited to the issue of infringement. The Court sometimes ruled the rights had been infringed and followed, *a fortiori*, that the inherent value and dignity of human beings had been violated. At other times, the Court only affirms infringement of fundamental rights as they are essentially inseparable from human dignity. Although human dignity as a subject may not be explicitly mentioned in some court decisions, they can nonetheless reveal the

true meaning of human dignity.

Constitutional cases reviewed in this paper deal with human dignity and other closely related fundamental rights in the realm of criminal justice. In other words, the cases are concerned with the basic rights of every human being that are considered necessary for the individual's self-determination and the manifestation of the human personality. The basic rights also include any unenumerated rights that can still be inferred from and originated with Article 10 of the Constitution or some of the individual rights, that are namely confidentiality and freedom of privacy and the right to liberty of the person, and freedom of conscience. Unenumerated rights affirmed by the Court are sexual self-determination, pregnant women's right to reproductive self-determination, and informational self-determination.

Excessive restrictions on the basic rights would constitute infringement of the rights and hence of the dignity of human beings. The yardstick suggested and applied in the adjudication proceedings of the Court would judge as to whether an alleged infringement of human dignity in a case is on merits.

## **Court Decision on Protection of the Human Personality**

### **a. Conscientious objection and freedom of conscience (2011Hun-Ba379 et al. June 28, 2018)**

The Court held unconstitutional five military service classifications, including active duty, reserve, supplemental, first class citizen and second citizen class under Clause 1 and Clause 2, Section 1, Article 55 of the Military Service Act. It declared imposing constitutional penalties on avoiding draft or a notice of call under Clause 1 and Clause 2, Section 1, Article 88 of the same Act. The landmark case put an end to the long-standing human rights quagmire.

Conscientious objection to military service can be construed as an individual's passive act to protect one's conscience rather than an active and aggressive campaign against law and order of society and communities. Objectors have consistently pleaded that they are willing to perform non-military and substitute service. It follows that even though their draft resistance may be contrary to the majority belief, it cannot be considered a disruptive anti-social behavior that merits the use of penal sanctions, which is by far the strongest exercise of power by the state authority.

The conscience of the individual as protected by the freedom of conscience

clause of the Constitution is irreplaceable and integral to affirming the dignity and value of oneself by adopting and professing belief. It follows that compelling the individual to doubt and recant one's belief can inflict a grave injury on the individual moral character. Imposing penal sanctions or restrictions on everyday life for refusing to recant belief makes the subjects doubt their existence and characters and thereby derogates their dignity as human beings. In the decision, the Court suggested that severe limitations on certain rights, including the right to self-determination and the right to manifest belief, indissociable from the intrinsic value of human life, can derogate human dignity.

**b. Capital punishment and the right to life  
(2008Hun-Ga23 February 25, 2010)**

Is capital punishment compatible with the constitutional order that regards the dignity and worth of human beings as its highest core value? The discussion on capital punishment triggers two counterfactual thoughts about two somewhat contrasting events. One is on whether to confer the right to life on Osama Bin Laden as part of a commitment to respect for the right contrary to the capital punishment, had he been prosecuted for plotting September 11 terrorist attacks. The other is on whether it might have been possible to prevent depriving the innocent individuals involved in the *Inhyeokdang* Incident of their rights to life.

The Constitutional Court held that capital punishment did not violate Article 10 of the Constitution that guarantees the dignity and worth of human beings and therefore was constitutional. The Court reasoned that capital punishment was constitutional as an institutionalized practice and that the constitutionality of each of the penal provisions can be assessed separately. The Court invoked the general limitation clause, Section 2, Article 37, stating that the guaranteed right to life can be limited for maintaining law and order and for promoting public welfare. The judgment of the Court nonetheless left open the possibility of limiting the number and type of capital crimes in the future when a consensus emerges on the need for the measure. In this case, the dignity and worth of human beings is served to set the parameters for the limitations of the right to life. Taking notice of the concurring opinion filed by the former Justice Doo-Hwan Song, the Court further should refine each of the capital punishment provisions.

Since the most fundamental problem lies in the abuse and misuse of capital punishment, it would be desirable to review the provisions allowing for capital

punishment, reserve the punishment only for the most serious offences, and abolished the punishment for crimes resulting in harm to the interests of society and nation.

**c. Withdrawal of life-sustaining treatments and the right to life  
(2008Hun-Ma385 November 26, 2009)**

The Constitutional Court held that a patient's decision to withdraw life-sustaining treatments is a type of a right belonging to the right to self-determination derived from constitutional guarantees of human dignity.

It was a case in which the Court dismissed a complaint alleging the legislative inaction on providing adequate guidelines, processes, and methods for withdrawal of life-sustaining treatments was unconstitutional. The Court reasoned that a legislature did not have a clear legal obligation to do and that withdrawal of such treatments was consistent with respect for the dignity of human beings. The decision provided by the Court would be a guide to absolving physicians of legal liabilities for forgoing life-sustaining treatments for patients with the patients' express or implied consents.

**Court Decision on Self-determination**

**a. The crime of abortion, fetal right and women's rights to self-determination (2017Hun-Ba127 April 11, 2019)**

The Constitutional Court declared unconstitutional Section 1, Article 269 of the Criminal Act which penalizes pregnant women for performing self-induced abortion and the part concerning the 'doctor' of Section 1, Article 270 of the Criminal Act which penalizes doctors for procuring abortion for women on her request or consent. The issue involves reflections on a human, a life, self-determination, ethics, a worldview, and a religion. Although the Court ruled the laws constitutional, they have been overturned indicating that the attention to, the significance of, and prospects on the issue of women's right to self-determination have been changed. As ethics and morality change with time and changing circumstances, the Court's decision reaffirmed the meaning of human dignity.

The opinion of the Court on the issue of capital punishment stated that the capital punishment does not violate the dignity and value of human beings, for it is given and reserved for those who commit the most heinous offenses. Then, what would be the

legal grounds for limiting the right to life of innocent fetus? The state's responsibility to protect the right to life and its degree of intervention can be differentiated in terms of fetal development. In addition, although the rights of pregnant women and those of the fetus seem to conflict with one another, it should be noted that the fetus depends on their mothers for maintenance of life and nourishment and women's abortion decision, made after due considerations, are unique and distinct from other rights.

**b. The crime of adultery, rights to sexual self-determination and confidentiality and freedom of privacy (2009Hun-Ba17 et al. February 26, 2015)**

The Constitutional Court declared unconstitutional the penal provisions on adultery, stating that they violated sexual self-determination as well as confidentiality and freedom of privacy. The Court ruled that "individuals' sexual life belonging to the intimate domain of privacy should be subject to the individual's self-determination, refraining from State's intervening and regulation, for its nature. The exercise of criminal punishment should be the last resort for the clear danger against substantial legal interests and should be limited at least. It would infringe on the right to sexual self-determination and privacy for a State to intervene and punish sexual life which should be subject to sexual morality and social orders". Although penalizing individuals, despite their marital statuses, for engaging in extramarital sex or affairs was constitutional, imposing the same penalties on martially separated or disrupted individuals was unconstitutional on the grounds that they violated the rights of single adulterers to sexual self-determination. Since the concepts of sexual fidelity or infidelity cannot be reasonably applied to single adulterers, it would be desirable to allow a system of civil forfeitures instead. Therefore, individuals' right to self-determination on such issues as adultery or sexual intercourse that falls within the scope of private life ought to be adjusted pursuant to the blameworthiness of their behaviors.

**c. The crime of sexual intercourse under pretense of marriage and rights to sexual self-determination (2008Hun-Ba58 November 26, 2009)**

The Constitutional Court declared unconstitutional Article 304 of the Criminal Act which penalizes those "who induce into sexual relations a female who is not habitually engaged in sexual intercourse under pretense of marriage or through

other fraudulent means.” The Court held that the provision did not serve a legitimate purpose contrary to the postulate of the prohibition on excess, stating that women’s right to sexual self-determination intended to be protected by the provision was contrary to their dignity and value. It noted that indecent motives that led to sexual intercourses were considered the issues of morality that did not pose harm to society, and therefore cannot be a justification for the intervention in private lives.

#### **d. The punishment of commercial sex and rights to sexual self-determination (2013Hun-Ga2 March 31, 2016)**

Does the penal provision on trading money for sexual service infringe on the individual’s sexual self-determination and confidentiality and freedom of privacy and so violate the Constitution? The Constitutional Court declared that the provision was constitutional. The right to sexual self-determination is construed as the right to choose the partner and to engage in sexual activity or as a legal goods or interest protected by the rape crime provision. In the reasoning of its judgment on adultery, the Court held that the right to sexual self-determination, in spite of being a fundamental right as a precondition to manifest one’s character, can be limited. In the context of the commercial sexual activity, however, the right to sexual self-determination was made less transparent, distorted, bizarre, and suppressed. Viewed in this way, dissenting opinions in opposition to the constitutionality of the penal provision on trading money for sexual service stated that sexual self-determination in this context ought to be construed as the right to choose a partner for sexual activity, not as the right to purchase women’s sexual autonomy or the right to self-determination.

In the judgment of the case, Justices of the Court held diverging views on the nature, characteristics, and harm to society of commercial sexual activities. On the surface, the activities seem to be voluntary translations among adults exercising their right to sexual self-determination. But, from the fact that at a deeper level, the commercial sexual activities are in fact a reflection of distorted socioeconomic conditions, there exists the need to update a constitutional interpretation of the activities on the basis of the constitutional core value of human dignity and changing social norms.

## **Court Decision of Bodily Integrity in Relation to the Human Personality**

In the cases dealing with prison overcrowding, the long-term and constant use of handcuffs and ropes in prisons, and prohibition on inmates' access to exercise, the Constitutional Court viewed the dignity and value of human beings as subjective rights. In the case concerning prison overcrowding, a complaint had been filed alleging that overcrowded prisons infringed on the dignity and value of human beings, the right to pursue happiness, and the personality right, and the right to lead a dignified life. The Court viewed that the allegations were all concerned with the issue of judging an infringement on human dignity and values and so only decided to review the question. In the cases concerning with the long-term and constant use of handcuffs and ropes and prohibition on inmates' access to exercise in prisons, the Court decided whether they violated the prohibition on excess and ruled that they violated the right to liberty and the dignity and value of human beings.

### *Execution of Punishments and Treatment of Offenders*

#### **a. Prison overcrowding and the value and dignity of human beings (2013Hun-Ma142 December 29, 2016)**

In this case, the Constitutional Court explained the limits of the state's power to define and punish crime as set by the dignity and value of human beings and ruled that prison overcrowding violated the constitutional core values. In reaching its decision, the Court attempted but could not suggest the minimum standard for personal living space in prisons. The Court unanimously decided that the small size of personal living space in prisons violated the dignity of prisoners.

#### **b. The long-term and constant use of restraining devices and the right to freedom of the person (2001Hun-Ma163 December 18, 2003)**

In this case, the Constitutional Court ruled that "in prisons, restraining devices for inmates are to be used to the minimum extent only when there is a specific need. More specific and clear justifications, including the risk of escape or violence, are required

for the long-term use of such devices that can deprive the subject of any meaningful or useful bodily movement. The use of the devices, even when used, should be limited to afford the inmates a dignified living as human beings.”

**c. Prohibition of inmates’ access to exercise and the value and dignity of human beings and the right to freedom of the person (2002Hun-Ma478 December 16, 2004)**

In the case, the Constitutional ruled that “Outdoor exercise is the minimum basic requirement for the maintenance of physical and mental health of the inmates who are imprisoned. Considering that the inmate subjected to the forfeiture of rights, even compared with other inmates in solitary confinement, lies in the state where communication with the outside world is disconnected, as interviews, correspondence by mail, communication by telephone, writing, work, reading the newspaper or books, listening to the radio and watching the television are prohibited, and is imprisoned in the punishment ward which is the size of approximately three(3) square meters with insufficient ventilation for up to two(2) months, there is a clearly high risk that is completely banning the inmate subjected to the forfeiture of rights from doing exercise will harm mental as well as physical health of such inmate. Therefore, the absolute ban of exercise of the inmate subjected to the forfeiture of rights, even considering the purpose of the sanction, is beyond the necessary minimum degree in terms of means and methods thereof, thus in our judgment reaching the extent violative of the human dignity and values under Article 10 of the Constitution and of the bodily freedom under Article 12 of the Constitution that includes the freedom not to have bodily safety.”

**d. The use of ropes and handcuffs and chaining to other inmates**

It was found that correctional officers, when transferring the inmates from a detention center to a prosecutor’s office, handcuffed them and tied ropes above their upper bodies using another rope to chain to other inmates. The issue of the case was whether handcuffing, tying ropes, and chaining to other inmates when transferring inmates to another location violated the right to liberty and personality.

The Constitutional Court ruled that they did not violate the inmates’ right to liberty and personality, stating that for the equipment had been used to the minimum extent necessary for preventing an escape.

*Judicial Police Officer's Granting of Taking Photographs of Interrogated Suspect and the Suspect's Right to Personality (2012Hun-Ma652 March 27, 2014)*

Section 4, Article 27 of the Constitution guarantees the presumption of innocence until proven guilty. Under the principle, the accused against whom a criminal prosecution charge was brought and those against whom a charge has not been brought have to be treated like innocent people and not be rendered at a significant disadvantage. It follows that releasing photographs of interrogated suspects infringed on their right to personality in contravention of the constitutional principle and the provision on respect of the suspect during interrogation as provided for in Section 2, Article 198 of the Criminal Procedure Act. The severity and impact of the act upon the subject and their family must be taken into account in judging its constitutionality. The Court ruled that a judicial police officer's granting of taking photographs of an interrogated suspect violated the postulate of the prohibition on excess and the subject's right to personality. The judgment provided by the Court ruled that guidelines were needed to allow photographing suspects and such photographing ought to be conducted in the least intrusive manner for protecting the subject's identity.

*Pharmacologic Treatment of Sex Offenders, the Fight to Liberty, Privacy, Self-determination and Personality (2013Hun-Ga9 December 13, 2015)*

The Act on Pharmacologic Treatment of Sex Offenders Sexual Impulses defines the term, pharmacological treatment of sex impulse as any treatment intended to suppress abnormal sexual impulses or desires, conducted by administering medication and psychotherapy to sexual deviants for weakening or normalizing their sexual functions (Section 3, Article 3 of the Act).

The court can order such treatment when delivering its verdict (Section 1, Article 8 of the same Act). As the treatment is administered two months prior to the release from prison of the subject (Section 3, Article 14), it might not be effective for long-term inmates due to a time difference between a verdict and a treatment.

The Constitutional Court ruled that the provision on filing a request of pharmacological treatment on sex offenders was constitutional whereas the provision

on court-ordering of such treatment unconstitutional on the ground that it did not take into account the length of time served by the subject of treatment and the possibilities where such treatment might be unnecessary. In 2017, the legislature complied with the judgment of the Court by amending the Act to include Article 8-2, which stipulates that “a person issued with a medical treatment order may file an application for exemption from execution of the medical treatment order with the district court on the grounds that the person is not liable to committing another sexual assault because he or she has improved to the extent of not requiring the execution of the treatment order.”

*Order of Electronic Monitoring, the Right to Self-determination and Confidentiality and Freedom of Privacy (2011Hun-Ba89 December 27, 2012 and 2010Hun-Ga82 et al. December 27, 2012)*

Pursuant to the Act on Probation and Electronic Monitoring, Etc. of Specific Criminal Offenders, a public prosecutor may file a request to the court to order attaching an electronic device to the suspect against whom a criminal charge of sex offense has been brought until the resolution of a case at the appellate courts, if the suspect is deemed to possess a high risk of reoffending (Section 1, Article 5 of the Act). If the court finds that such requests are warranted, it can sentence electronic monitoring for convicted sex offenders for a prescribed period of time (Section 1, Article 9 of the same Act).

The Court ruled that the provision of electronic monitoring does not violate the fundamental rights enshrined in the Constitution, holding that public interests in protecting the public from crime outweighed possible harm to the convicted offenders.

The Addenda (Act No. 9112), which took effect on June 13, 2008, grants the court the power to issue an order of electronic monitoring to the convicted sex offenders whose terms of imprisonment have not been lapsed for more than three years. The legislative intent behind the provision was that the act before the amendment would not be effective in addressing the risk of sexual recidivism. The Court declared constitutional the prohibition, holding that it did not violate the prohibition on retrospective application and excess.

The Act on Special Cases Concerning the Punishment, Etc. of Sexual Crimes stipulates that an individual subject to registration of personal information pursuant to the law should submit his or her personal information to the police departments having jurisdiction over the residential address of the subject of registration or correctional facilities having the responsibility of the custody of the person in question (Section I and III, Article 43 of the Act). The information required for submission includes a name, a resident registration number, postal and residential addresses, an occupation and an employer address, height and weight, and a vehicle registration number. The Minister of Justice is entrusted with registering, retaining, and managing the information of the subject about his or her prior sex crime convictions (Section 1 of Article 45 of the Act).

The Court declared constitutional the provision prescribing registration of personal information of offenders convicted of the crimes of taking photos of others by using cameras and etc. enumerated in Article 14 of the same Act and the provision prescribing retaining the information for a period of twenty years on the ground that it served compelling public interests in preventing reoffending and protecting social order. However, the Court stroke down the provision on managing the information as unconstitutional. The Court judged that registering personal information of the offenders did not violate informational self-determination and could be considered proper and valid whereas managing all such information, without any variations, for twenty years, constitute an infringement on the right to informational self-determination.

The provision prescribing registration of personal information of offenders was deemed unconstitutional, finding that it did not take into account the likelihood of reoffending when selecting the subject of registration and, therefore, imposed unnecessary restrictions on low-risk offenders. Also, it failed the least-intrusive-means test and the overall balance of interests, for its list of enumerated sex offenses had been made without due consideration of the characteristics, types, severity of criminality of all behaviors and its lack of an appeals procedure.

Many complaints have been raised on the constitutionality of prescribing registration of personal information about offenders convicted of the crimes of obscene acts by using means of communication and intrusion upon publicly used places with an intent to satisfy sexual urges. The Court decided the cases based on the

characteristics and severity of criminality of the offenses enumerated in the Act. The Court held that all the provisions on imposing registration of personal information about persons convicted of offenses under the Act constitutional except for the part on the crime of obscene acts by using means of communication declared unconstitutional.

The Court also declared that an amendment to the Act which prescribes registering, retaining and managing personal information about offenders sentenced to less than three years of imprisonment for the violation of the crime of taking photos by using cameras, etc. did not constitute an infringement on informational self-determination. In this case, several constitutional judges objected to the court decision, holding that an exemption scheme for registration of information presumed high probability of reoffending within a ten years.

*Disclosure and Notification of Personal Information, Personality Rights, and Informational Self-determination (2014Hun-Ba68 et al. May 26, 2016)*

Under the Act on the Protection of Children and Youth Against Sex Offenses, a scheme for internet disclosure of information on offenders convicted of sex crimes against children and the youth was introduced to facilitate public access to information about the offenders. The Act also introduced a notification scheme that allowed notification of the disclosed information by post to those having parental rights and legal representatives of children and youth living near the residence of the subject of the disclosure. The courts order disclosure and notification of information about the sex offenders which are executed by the Ministry of Gender Equality and Family.

The Court declared the court dispositions of disclosure and notification of information about the offenders constitutional on the grounds that they constituted the protective security measures differentiated from criminal punishments in their purpose and criteria and thus did not violate the principles of double jeopardy and the prohibition on the excess.

However, the schemes were akin to a punishment of public shaming that not only reinforces stigmatization and marginalization but also obstructs their successful reintegration into society. Furthermore, the schemes have the potential to inflict psychological trauma upon the innocent family members of the offenders and deprive them of their livelihoods. Deterrent effects of the system, however, are not clear at best.

*The Collection Provision, the Deletion Provision, and Addenda of the Act on Use and Protection of DNA Identification Information and the Right to Freedom of the Person and Informational Self-determination (2011Hun-Ma28 et al. August 28, 2014)*

The Act on Use and Protection of DNA Identification Information stipulates that DNA samples can be taken from offenders convicted of arson, homicide, kidnapping and abduction, rape and infamous conduct, theft and robbery, violence, intimidation, and intrusion upon habitation and refusal to leave (Section 1 of Article 5 of the Act, hereinafter, the DNA Collection Provision). The person entrusted by the Prosecutor-General or the Commissioner-General of the National Police Agency tests the extracted DNA samples and store and maintain them in a DNA databank (Article 10 of the Act, hereinafter, the Identification, Storage and Management Provision). The stored DNA identification data shall be expunged either ex officio or upon demand by the members of immediate family of the data subject (Article 13 of the Act, hereinafter, the DNA Deletion Provision). The said DNA collection and the Identification, Storage and Management provisions can be applied to offenders who, at the time of the act's taking effect, are convicted of the types of crime that necessitate their submission of DNA samples and are in custody serving a sentence of imprisonment (Section 1, Article 2 of Addenda)

The Court held that the DNA collection provision, the DNA deletion provision, and the provision of Addenda did not constitute an infringement on the right to freedom of the person nor informational self-determination. The judgement given by the Court was that compelling public interests in investigating and preventing crime justified slight restrictions on the right to freedom of the person and that stored DNA samples cannot be considered sensitive personal information. The Court also held that the provision of Addenda did not violate the postulates of prohibition on retrospective application and excess.

This provisions were unconstitutional. Fulfilling the Act's legislative intent of utilizing DNA samples for future investigation of crime cannot justify collecting or extracting DNA samples from low-risk offenders. However, the DNA collection provision did not distinguish offenders subject to DNA sampling and testing in terms of the likelihood of reoffending. The DNA deletion provision did not implement varying data retention periods corresponding to the severity of crime and the likelihood of reoffending. The provision of Addenda further violated the postulate of prohibition on retrospective application. Even if it did not, it undermined faith of

prisoners in law as well as the stability of the law by subjecting offenders convicted of offences enumerated in the Act to DNA sampling and testing. Therefore, the said provisions violated the prohibition on excess.

## **Conclusion**

The Constitutional Court raises a red flag to the actions, at all levels of the government, that infringe on human dignity, which is deemed the highest constitutional value. Human dignity essentially means advocating respect of every human being for his own sake and opposing objectification of human beings as a means for some other values or purposes. Reviewing constitutional precedents, this paper examined the question of how to realize human dignity in the realm of criminal justice.

First, it has been suggested that imposing criminal punishments on conscientious objection of military service, which is considered a less anti-social behavior, without permitting an alternative service scheme can derogate the dignity of human beings.

Second, it has been shown that the state's invocation of its power to define and punish crime to penalize certain behaviors such as sexual activities that technically fall within the scope of private life, even if they can be immoral, places excessive restrictions on the right of the individual to sexual self-determination and privacy.

Last, it has been illustrated the trends of the Constitutional Court decisions in placing greater importance on protecting the public, especially women and children, from sex crimes. On the issues of whether disclosure of personal information about convicted sex offenders can be likened to public shaming and hence violated the dignity and value of human beings and whether a pharmacological treatment of sexually impulsive behaviors amounted to chemical castration that threatened the subject's identity, the Court focused on whether treating human beings as a tool for preventing crime infringed on human dignity and declared it constitutional. The Court also declared constitutional a provision on disclosure and registration of personal information about convicted sex offenders, a provision on the extraction of DNA samples from certain convicted offenders, and a provision of Addenda on the retrospective application of the said measures. Indiscriminate retrospective applications of the measures need to be checked and the subject of their deterrent effects ought to be examined more broadly. Later on, human dignity should be featured more prominently in the field of criminal justice.

# Victimization Risk and Immunity of Adolescents in South Korea: Stepwise Non-zero- and Zero-inflated Analyses of the Korean Panel Survey

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## Abstract

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Studies on the frequency distribution of victimizations have significantly advanced our understanding of risk factors associated with repeat victimizations, yet limited attention has been given to the existence of an excessive number of non-victims in victimization data. Using the Korean Youth Panel Survey, this study tests whether including an immunity effect into statistical models better explicates adolescent victimization risk factors and estimates the determinants of youth repeat victimization in South Korea. In this study, we find that accounting for an immunity effect identifies not only predictors of immunity but also better exposes risk factors for victimization. The results from the zero-inflated models show that social attachment and contextual factors play a critical role in deciding both risk and immunity, while self-control, self-esteem, and the lifestyles of students have limited influence on school victimization.

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## Key Words

Repeat Victimization, Immunity Effect, Victimization Risk, Zero-inflated Analysis

# INTRODUCTION

Studies have revealed that frequencies of victimizations are concentrated in a small portion of the population; a limited number of victims are repeatedly victimized while a majority of individuals do not experience any victimization (Berg & Loeber, 2011; Bjarnason et al., 1999; Cohen & Felson, 1979; Garofalo, 1987; Hindelang et al., 1978; Miethe & McDowall, 1993; Miethe & Meier, 1990; Pratt & Turanovic, 2016; Schreck, 1999; Turanovic et al., 2018). From a practical perspective, this phenomenon has been addressed as *repeat victimization* and proposes that crime prevention resources should be allocated to *repeat victims* for more effective crime prevention (Farrell, 2005; Farrell & Pease, 1993; Pease, 1998). From an academic standpoint, diverse theoretical etiologies have emphasized individual-level risky lifestyles/routines, embedded personal characteristics such as low self-control and self-esteem, and contextual factors positing that structural constraints restrict victims' ability to change their risky lifestyles, which, in turn, facilitates subsequent repeat victimizations (Egan & Perry, 1998; Hindelang et al., 1978; Miethe & McDowall, 1993; Miethe & Meier, 1990; Schreck, 1999; Schreck et al., 2006; Turanovic et al., 2018). Through theoretical advancements and empirical tests, studies of repeat victimization have advanced our understanding of the effects of individual and contextual factors on the concentration of victimization incidents. As such, these studies support various victim-oriented crime prevention practices targeting individuals who are repeatedly victimized.

Recently, however, several studies have called academic attention to another critical aspect of victimization distributions—an excessive number of non-victims. Hope & Norris (2013), for example, introduced the notion of *immunity* and argued that the heterogeneity in victimization frequencies cannot be adequately analyzed without considering the effect of non-victims. Park & Fisher (2017) extended this argument and statistically demonstrated that the existence of an immune group is another factor that increases the risk of victimization for non-immune individuals. According to their arguments, excessive number of non-victims indicates that there are two groups of non-victims such as (1) *exposed* non-victims who are exposed to victimization but not victimized (i.e., students who have laptops but are not victimized for laptop theft) and (2) *immune* non-victims who are not exposed to a specific type of victimization (i.e., students who do not possess a laptop) (Park & Fisher 2017). When the number

of immune individuals increases, the risk of non-immune group elevates<sup>1)</sup>; therefore, failing to address an immunity effect might produce imprecise causal models of victimization (Park & Fisher 2017).

Despite the contribution of recent arguments in understanding victimization distributions, empirical tests of the immunity effect are quite sparse in the field of criminal justice. In particular, only a handful of studies have examined the immunity effect on school crime victimization under the settings of western societies (i.e., Cho, Glassner, Kim, & Park, 2019), and little is known for eastern countries. The purpose of this study is to fill this void by determining whether an immunity effect generates any meaningful difference in the study of school victimization and by identifying the determinants of these immunities as well as risks of victimization in South Korea. For the empirical test, we analyze the Korean Youth Panel Survey data using non-zero-inflated and zero-inflated negative binomial models and model-fit tests. Ultimately, we find that accounting for an immunity effect produces more precise explanations for concentrated victimization incidents and, as such, conclude that the immunity effect should be consistently investigated for more comprehensive tests of victimization theories. Policy implications and suggestions for future studies are discussed.

## **Individual-level Predictors of Victimization**

Since Hindelang, Gottfredson, and Garofalo (1978) highlighted the uneven distribution of personal crime victimization, studies on victimization have used diverse theoretical frameworks that attribute differential risks of victimization to individual propensities (Pratt & Turanovic, 2016). Early theories focused on individual lifestyles and routine activities (Cohen & Felson, 1979; Hindelang et al., 1978), while later studies have extended and specified those theories (e.g., risky lifestyles such as one's involvement in offenses; Lauritsen et al., 1991) or focused on psychological traits such as low self-control (Schreck, 1999), self-esteem (Boulton & Underwood, 1992), and attachment (Kokkinos, 2013; Nikiforou et al., 2013).

The lifestyles and routine activities perspectives posit that victimization risk increases when individuals' risky lifestyles place them adjacent to criminal

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1) For example, if five out of ten students do not have a laptop, the laptop-theft victimization risk of remaining students (non-immune group) is 1/5, not 1/10. Therefore, this risk increases as the number of immune students increases.

opportunities, opportunities composed of motivated offenders, suitable targets, and lack of guardianship (Cohen & Felson, 1979; Felson & Boba, 2010; Hindelang et al., 1978). Previous studies consistently find that these perspectives successfully explain etiologies of diverse types of victimization (Miethe & Meier, 1990; Miethe et al., 1990; Pratt & Turanovic, 2016; Schreck et al., 2006) and are useful guides for developing new perspectives on victimization (Felson & Boba, 2010; Pratt & Turanovic, 2016; Pratt et al., 2014; Schreck et al., 2006). While most studies operationalized these two theories without clear distinction, Pratt and Turanovic (2016) explained that the lifestyle perspective is rather a probabilistic approach predicting a continuum of risks, while the routine activity perspective describes the conditions of victimization events explicitly (p. 336).

One significant finding from empirical tests of these perspectives has been an overlap between offenders and victims. Victims and offenders share similar dispositions, and engaging in crime and delinquency is a strong predictor of victimizations (Berg et al., 2012; Gottfredson, 1981; Jennings et al., 2012; Lauritsen et al., 1991; Pratt et al., 2014; Turanovic et al., 2018). This finding has induced criminologists to pay attention to offenders' characteristics (e.g., self-control, self-esteem, social attachments) as potential determinants of school victimizations (Egan & Perry, 1998; Kokkinos, 2008, 2013; Schreck, 1999).

Applying Gottfredson and Hirschi's (1990) General Theory of Crime, studies on the effect of self-control on victimization have built strong theoretical and empirical support for this perspective (Ousey et al., 2011; Piquero et al., 2005; Pratt et al., 2014; Schreck, 1999). In accordance with the theory, individuals with higher impulsivity do not consider the consequence of their behaviors and thus provoke dangerous situations (Schreck, 1999). Furthermore, impulsive individuals are more inclined to engage in risky lifestyles which increases their probability of victimization (Schreck, 1999). In their meta-analysis of 66 studies on self-control, Pratt et al. (2014) found consistent and robust effects of self-control on victimization across diverse types of methodological approaches. They revealed, however, that accounting for intervening causal processes significantly mediated the effect of self-control (Pratt et al., 2014).

Scholars have also examined self-esteem (i.e., positive orientation toward oneself) as a personal determinant of school victimization (Egan & Perry, 1998; Tsaousis, 2016). It is suggested that individuals with low self-esteem will provoke negative attention and will be less capable of defending themselves (Egan & Perry, 1998; Hodges & Perry, 1999; Tsaousis, 2016). Several longitudinal studies revealed non-recursive effects between self-esteem and school victimizations such that becoming a

victim leads to lower self-esteem; lower self-esteem, in turn, generates a higher risk of victimization at school (Boulton et al., 2010; Salmivalli & Isaacs, 2005).

Lastly, attachments to peers, parents, and schools have been cited as another causal factor of school victimization (Kokkinos, 2008, 2013; Spence et al., 1999). Students with low peer-attachment are more likely to be rejected by peers and located in a social context without trustworthy friends and, therefore, more likely to exhibit submissive behaviors when dealing with peer offenders (Kokkinos, 2008). A number of studies also find that lack of parental attachment is associated with children's behavioral and emotional problems (Shaw et al., 1996), and that the likelihood of being bullied is correlated with parenting styles and lack of family cohesion (Bowers et al., 1992; Espelage & Swearer, 2004; Rigby, 1994).

### **Structural/Contextual Effects**

Much research has found that structural or contextual factors are some of the leading contributors to uneven risk of individual victimization (Berg & Loeber, 2011; Bjarnason et al., 1999; Garofalo, 1987; Hindelang et al., 1978; Miethe & McDowall, 1993; Miethe & Meier, 1990; Pratt & Turanovic, 2016; Turanovic et al., 2018). Hindelang et al. (1978), for example, argued that *structural constraints* within various institutional orders and role expectations impose limitations on individual lifestyles, which in turn determine individual risks of victimization. Incorporating these factors into their lifestyle perspective, they implied that *structural constraints* both cause group-level adaptations (that generate lifestyle patterns in the given area) and restrict an individual's ability to change their risky lifestyle (Hindelang et al., 1978).

Miethe & Meier (1990) introduced the "Structural-Choice Theory of Victimization" which emphasized that macro-dynamic forces form criminal opportunity structures as well as micro-level processes influencing target selection. Their theoretical model recognized proximity and exposure to motivated offenders as structural factors and considered target attractiveness and guardianship to be *choice* factors. While *structural* factors are theorized to impact macro-level victimization statuses, choice components predict the individual-level risk of victimization (Miethe & Meier, 1990). Extending this model to the integration of crime and victimization theories, Miethe & McDowall (1993) contended that an individual's risk of victimization should be determined by both their routine activities as well as contextual effects from their immediate environment.

Based on early theories, later studies forged contextual effects into several theoretical approaches. First, in applying the notion of violent subcultures and street codes, multiple studies argue that the specific subcultural norms present in a given area facilitate individuals' engagement in risky behaviors, put them in risky situations, cause them to interact with potential offenders, and—through these mechanisms—increase the odds of victimization (Berg & Loeber, 2011; Berg et al., 2012; Turanovic et al., 2018). Employing multilevel analyses, for example, Berg et al. (2012) revealed that offender-victim overlaps were strong in neighborhoods where street subcultures predominated.

Secondly, studies on contextual effects have also contended that certain social and structural situations would prevent previous victims from avoiding or changing risky settings and, therefore, cause them to be repeatedly victimized (Miethe et al., 1990; Turanovic & Pratt, 2014; Turanovic et al., 2018). While the former theories have focused on *subcultural statuses* that motivate individuals to take part in risky lifestyles, this perspective focuses more on an *inability to change* their risky environment (Turanovic & Pratt, 2014; Turanovic et al., 2018). Finally, a number of studies operationalized contextual factors into the notion of proximity with potential offenders (Lauritsen et al., 1991; Miethe & McDowall, 1993; Miethe & Meier, 1990; Park & Fisher, 2017; Tseloni et al., 2004; Turanovic et al., 2018). Studies using this approach claim that residing in the areas with higher criminality is an individual-level risk factor that explains individual-level variations in victimization risk (Miethe & McDowall, 1993; Tseloni et al., 2004).

### **Immunity Effect on Victimization**

While previous studies have examined predictors of individual victimization, several studies draw attention to the other pole—a large number of non-victims in the data. By employing latent class analysis, Hope & Norris (2013) suggested that, when considering the consistent discrete patterns of victimization, the distribution of victimization should be generated to reflect not just *exposure* to victimization but also *immunity* from such victimization. They concluded that over-dispersed victimizations could be more accurately represented by introducing both immunity and exposure to analytical models.

To address how *immunity* in the population elevates victimization risks for non-immune individuals, Park & Fisher (2017) hypothesized that if a group of people

immune to a particular type of victimization exists, the number of suitable targets in the given area decreases. This condition, then, increases the odds of being victimized for non-immune individuals. They also argued that incorporating immunity into analytical models should reveal the specific influence of unique risk factors. In their zero-inflated analysis of the National Crime Victimization Survey, Park & Fisher (2017) found that an increase in guardianship is correlated with both a higher level of immunity and a higher risk of burglary victimization. To explain this counterintuitive finding, they suggested that an elevated level of guardianship increases the odds of being immune but also better isolates the status of individuals experiencing higher victimization risks. Interestingly, the standard negative binomial model (i.e., without a zero-inflated parameter) did not find any significant effect of physical guardianship, likely due to the failure to differentiate these two polarizing effects. To correctly identify the effect of individual traits (such as risky lifestyles/routines) on one's own risk of victimizations, studies on victimization should examine whether there is an immunity effect (Park & Fisher, 2017).

## METHODS

### Data

In this study, we analyze data from the Korean Youth Panel Survey (KYPS) to empirically test predictors of being *either* high-risk for victimization or immune from victimization. Initiated by the Korean National Youth Policy Institute (KNUPI) in 2003, the KYPS investigated the psychological and environmental conditions of Korean youths and their diverse experiences including criminal involvement and victimization. Using stratified cluster sampling processes, the KNUPI sampled 3,449 out of 618,100 Korean students in their second year of junior high school and interviewed them following a longitudinal multiple-point panel design. Trained interviewers visited the schools of the sampled students and surveyed respondents face-to-face. In addition, parents of the sampled students were surveyed by telephone.

The KYPS survey followed each student for six years and carried out interviews every year starting in 2003 (their second year of middle school) to 2008 (a year after graduation from high school). Out of these six waves, the current study employs the fourth and the fifth waves (while students were in their sophomore and junior years at

high school), as the other waves do not include questions on neighborhood and school contexts of students. These two waves are merged into one dataset for the analyses below. A total of 3,121 students in the fourth wave and 2,836 students in the fifth wave completed the survey. Despite attrition between the fourth wave and the fifth wave, most demographic characteristics remained consistent across the two waves (see Table 2). For obvious reasons, the age of the sample increased by one year. We also see an increase in the number of respondents reporting part-time work and a decrease in the number of extracurricular activities, both likely due to the increased age.

## Variables

### *Dependent Variable*

The frequency of *school victimization* is introduced as the dependent variable in this study and measured by the sum of six types of school crime victimizations: (1) mockery, (2) threat, (3) ostracism, (4) assault, (5) sex offense, and (6) robbery. *Mockery* indicates “verbal bullying” or making fun of the respondent contemptuously. *Threat* means threatening or intimidating the respondent to do something. *Ostracism* denotes any behavior which isolates or ostracizes the respondent from other students. *Assault* indicates that respondents were physically beaten or harmed. *Robbery* indicates coercively depriving the respondent of anything valuable. The last category, *sex offense*, includes any sexual assault, including verbal or physical harassment. Students were asked to report the number of times they were victimized (for each crime) during the last school year, and these numbers were summed to operationalize the *school victimization* variable. Table 1 shows the distribution of the victimization frequencies in each wave.

**Table 1. Descriptive Statistics of Variables (N = 3,121)**

Variable	Mean	SD	Min	Max
<i>4<sup>th</sup> Wave</i>				
Dependent Variable				
Victimization	0.25	3.51	0.00	100.00
Explanatory Variables				
Individual Personality				
Self-control	0.00	1.00	-2.49	3.62
Self-esteem	0.00	1.00	-3.27	2.28
Lifestyle				
Participation in Delinquency	6.15	17.7	0.00	200.00
Study Hours	10.67	2.92	0.00	19.00
Part-time work	0.60	1.69	0.00	7.00
Extracurricular Activities	2.14	3.49	0.00	43.00
Social Attachment				
Parental Attachment	0.00	1.00	-2.25	3.55
School Attachment	0.00	1.00	-2.92	4.94
Contextual Factors				
Delinquent Friends	5.16	10.78	0.00	180.00
Neighborhood Cohesion	0.00	1.00	-1.72	3.27
School Context	0.00	1.00	-1.90	3.32
Demographic Variable				
Age	13.78	0.42	13	15
Gender	.50	.50	0	1
<i>5<sup>th</sup> Wave</i>				
Dependent Variable				
Victimization	0.27	5.08	0.00	160.00
Explanatory Variables				
Individual Personality				
Self-control	0.00	1.00	-2.50	3.33
Self-esteem	0.00	1.00	-3.45	2.16
Lifestyle				
Participation in Delinquency	7.72	20.75	0.00	280.00
Study Hours	9.49	3.56	0.00	18.00
Part-time work	1.26	2.32	0.00	7.00
Extracurricular Activities	1.47	3.01	0.00	27.00
Social Attachment				
Parental Attachment	0.00	1.00	-3.52	2.12
School Attachment	0.00	1.00	-2.69	4.34
Contextual Factors				
Delinquent Friends	5.60	12.44	0.00	391.00
Neighborhood Cohesion	0.00	1.00	-1.74	3.14
School Context	0.00	1.00	-1.47	3.53
Demographic Variable				
Age	14.78	0.42	14	16
Gender	.51	.50	0	1

### *Explanatory Variable*

To measure the effect of individual propensities and contextual factors on victimization risk and immunity, four individual-level factors (self-control, self-esteem, individual lifestyles, and social attachments) and three contextual factors (delinquent friends, neighborhood cohesion, and school context) are introduced in this study.

*Individual Personality Characteristics.* Previous studies have consistently found that low *self-control* and low *self-esteem* significantly increase the odds of school victimizations (Schreck, 1999; Schreck et al., 2006; Tsousis, 2016). In the KYPS, there are six questions which investigate the self-control of respondents, including: (1) I will do exciting things despite having important exams tomorrow, (2) I give up when things become hard and complicated, (3) I enjoy dangerous activities, (4) I like harassing other people, (5) When I get mad, I become entirely irrational, and (6) I usually do not finish my homework. Students responded to each item using a five-point Likert-scale. We employed the Exploratory Factor Analysis (EFA) method to factorize one factor from these six indicator questions ( $\alpha = .681$ ). *Self-esteem* is also operationalized through EFA of three five-point Likert-scale questions ( $\alpha = .819$ ): (1) I think I am a good-natured person, (2) I think I am an able person, and (3) I think I am a worthy person.

*Lifestyle.* This study conceptualizes lifestyles of individual students with four variables: *participation in delinquency*, *study hours*, *part-time work*, and *extracurricular activities*. The survey asked students the number of times they were involved in five types of delinquent behavior: smoking cigarettes, drinking alcohol, running away from home, being sexually active, and being absent from school without an excuse. This study operationalizes *participation in delinquency* as the sum of the reported number of each behavior. *Study hours* is measured as the open-ended response to the question “How many hours do you study during weekdays?” *Extracurricular activities* are measured by averaging the number of times respondents reported participating in four types of extracurricular activities during the past year: (1) Other educational institutes, (2) Training institutes, (3) Service activities, and (4) Club activities. Finally, the variable *part-time work* is measured by the respondent’s reported number of part-time working hours (on average) per week.

*Social Attachment.* In this study, we measure two types of social attachment: *parental attachment* and *school attachment*. Previous studies consistently find that such attachments significantly influence the likelihood of school victimization (Kokkinos, 2008, 2013; Rigby, 1994). The KYPS used a total of ten Likert-scale

questions to investigate the relationship between a respondent and their parents: (1) Parents try to spend more time with me, (2) Parents always show affection and love to me, (3) Parents and I usually understand each other, (4) I talk with parents openly, (5) I talk with parents frequently, (6) I usually tell parents what happened at school, (7) Parents know my location when I am out of home, (8) Parents know my accompanys outside, (9) Parents know what I am doing outside, (10) Parents know when I come back home. This study employs the EFA to create one factor of *parental attachment* ( $\alpha = .904$ ). The *school attachment* scale was also created using EFA and is based on the responses to seven Likert-scale questions: (1) It is tough to follow school rules and regulations, (2) I am not interested in school study, (3) I have received a warning or disciplinary action, (4) I do not have a good relationship with classmates, (5) I do not have a good relationship with teachers, (6) The current school is not suitable for my future study, and (7) The current school is limited developing my ability or talent ( $\alpha = .759$ ). To retain consistent directionality (where higher values indicate a greater level of attachment), we modified the Likert scale of *school attachment* before running the EFA.

*Contextual Factors.* Three aspects of contextual status are introduced in this study. First, the peer context of students is measured by the number of *delinquent friends*. Specifically, students were questioned about the number of friends who drank alcohol, smoked cigarettes, missed school without an excuse, beat or robbed others, and stole things. Secondly, *neighborhood cohesion* is measured by factoring four questions about neighborhood cohesion ( $\alpha = .826$ ): (1) My neighbors come together frequently, (2) My neighbors tend to trust each other, (3) My neighbors tend to scold delinquent juveniles, and (4) My neighbors tend to interrupt fighting on the street or call the police to stop it. The last contextual variables are *school context*, which is operationalized by the EFA of six Likert-scale questions ( $\alpha = .879$ ): (1) My school is untended and dirty, (2) There are lots of delinquent students at my school, (3) At my school, there are places where delinquent behaviors are frequently committed, (4) The surroundings of my school are untended and dirty, (5) There are lots of delinquents around my school, and (6) Around my school, there are places where delinquent behaviors are frequently committed.

*Demographic variables.* In addition to the above variables, respondents' *age* and *gender* are introduced to control the effect of demographic factors. Due to the homogeneous racial composition in South Korea, individual races are not surveyed in the KYPS. Table 2 present the descriptive information of all variables in this study.

**Table 2. Frequency Distribution of Victimizations**

Frequency	4 <sup>th</sup> Wave		5 <sup>th</sup> Wave	
	Frequency	Percent	Frequency	Percent
4 <sup>th</sup> Wave				
0	3,014	96.6	2,844	97.9
1	32	1.0	25	0.9
2	29	0.9	7	0.2
3	12	0.4	11	0.4
4	6	0.2	2	0.1
5 or more	28	0.9	16	0.5
Total	3,121	100	2,905	100

*Analytical Modeling*

To better understand how immunity might affect the relationship between predictors and victimization and victimization risks, this study employs both the negative binomial and the zero-inflated negative binomial regressions as suggested by Park & Fisher (2017). Earlier studies found that the frequency distributions of victimization are more over-dispersed than expected by the Poisson process (Hindelang et al., 1978; Nelson, 1980; Sparks et al., 1978). This “over-dispersion” in the victimization data has been addressed by using the negative binomial regression, which affixes an over-dispersion parameter to the Poisson regression (Nelson, 1980; Park & Fisher, 2017). The probability function of the negative binomial model is given as:

$$P(X = k) = \frac{\Gamma(\lambda / \theta + k)}{\Gamma(\lambda / \theta) \Gamma(k + 1)} \left( \frac{1}{1 + \theta} \right)^{\lambda / \theta} \left( \frac{\theta}{1 + \theta} \right)^k, k = 0, 1, 2, \dots \quad (1)$$

where  $\theta$  reflects over-dispersion,  $\lambda$  indicates the rate of victimization incidence,  $k$  shows victimization frequency and  $\Gamma(\cdot)$  denotes the gamma function such that  $\Gamma(s) = \int_0^\infty z^{s-1} e^{-z} dz$ . Thus, when the victimization frequency distribution is over-dispersed than expected by the Poisson model, the negative binomial model should be employed to address two non-Poisson factors—individual risk heterogeneity (*flags*) indicating an enduring, uneven, risk of victimization, and (2) event dependence (i.e., the impact of previous victimization on increasing the risk of future victimization; Ousey et al., 2008; Tseloni & Pease, 2003; Tseloni & Pease, 2004).

When an immune group exists in the population, however, this negative binomial regression is limited in identifying the precise effects of individual traits on victimization

(Park & Fisher, 2017). To adequately address the immunity effect, therefore, this study also introduces the zero-inflated negative binomial (ZINB) regression which is given as:

$$f(y) = \frac{\Gamma(y + \theta)}{(1 + \exp(z'\gamma))\Gamma(\theta)\Gamma(y + 1)} \left( \frac{\theta}{\exp(x'\beta) + \theta} \right)^\theta \left( \frac{\exp(x'\beta)}{\exp(x'\beta) + \theta} \right)^y \quad (2)$$

Compared to the negative binomial model (which addresses only the over-dispersed victimizations  $[\theta]$  by individual propensities), the ZINB model estimates both the probability of experiencing one or more victimization incidents ( $x'\beta$ ) as well as the likelihood of being immune from victimization ( $z'\gamma$ ). To identify which model is more appropriate for our study, we use the *Akaike information criteria* (AIC) and Vuong tests to compare model-fit between the negative binomial and ZINB models. Note that predictors are regressed on the dependent variable in two stages. In the first stage, we run models using only the individual propensity factors (Table 3) and then add contextual factors at the second stage (Table 4).

## RESULTS

We first examine our model-fit tests and find that the AIC and Vuong indicate that the ZINB regression provides significantly better model-fit ( $p < .01$ ) for both stages of the regression. These findings imply that taking the immunity effect into account explains more variance in victimization models and supports the existence of an immunity effect in the distribution of school victimizations.

Table 3 presents the results of the negative binomial and the ZINB analyses at the first stage for the individual propensity factors only. Contrary to previous findings, individual personality characteristics such as *self-control* and *self-esteem* do not significantly influence individual victimization risks at school. Among *lifestyle* variables, being involved in *delinquent behaviors* is the only significant variable in the negative binomial analysis and is found to significantly increase the risk of school victimization. When taking into account the immunity effect, however, the significant effect of being involved in *delinquent behaviors* dissipates, and involvement in *extracurricular activities* decreases the odds of being immune significantly. As addressed in the discussion section, these findings from the zero-inflated analysis indicate that participation in diverse activities may reduce the probability of being

immune but does not significantly increase the likelihood of being high-risk for individual victimization

**Table 3. Individual Propensity Only Model for the 4<sup>th</sup> and 5<sup>th</sup> Waves**

Variable	Negative Binomial Regression	ZINB Regression	
		High Risk	Immunity
Individual Personality			
Self-control	- .08	- .09	- .04
Self-esteem	- .07	- .01	.01
Lifestyle			
Participation in Delinquency	.01*	.01	- .01
Study Hours	.04	.01	- .03
Part-time work	- .10	- .09	.01
Extracurricular Activities	.08	- .01	- .12**
Social Attachment			
Parental Attachment	- .40**	- .38*	- .09
School Attachment	- 1.03**	- .59**	.51**
Demographic Variable			
Age	.02	.40	.61**
Gender	2.22**	1.90**	- .15
Contextual Factors			
Model Statistics			
AIC	2315.72	2291.88	
Vuong test		3.14**	

\* p < 0.05, \*\* p < 0.01

The *social attachment* variables such as *parental* and *school attachments* consistently and significantly influence victimization. In particular, *school attachment* decreases the risk of victimization and also increases the odds of being immune in the zero-inflated analysis. The other social attachment variable, *parental attachment*, significantly decreases the individual risk of school victimization in both models. These findings indicate that attachment to parents and schools are more important determinants than students’ lifestyles for understanding school victimization. Among demographic variables, male students have a significantly higher risk of victimization, while older students are more likely to be immune to school victimizations.

At the second stage (shown in Table 4), we add contextual variables into the individual propensity model. After adding contextual factors to the model, the variable measuring involvement in *delinquent behaviors* is not significant in any regression analysis. As seen in the individual propensity only model, being more involved in

*extracurricular programs* significantly decreases the likelihood of immunity even after controlling for contextual factors. Furthermore, *social attachment* and demographic variable effects are similar to those at the first stage; *school* and *parent attachments* significantly reduce the odds of being victimized, while *school attachment* increases one’s likelihood of being immune.

**Table 4. Individual Propensity and Contextual Effect Model for the 4th and 5th Waves**

Variable	Negative Binomial Regression	ZINB Regression	
		High Risk	Immunity
Individual Personality			
Self-control	- .15	.05	.09
Self-esteem	- .01	.02	.04
Lifestyle			
Participation in Delinquency	.01	.00	- .01
Study Hours	.04	.03	- .03
Part-time work	- .09	- .07	.02
Extracurricular Activities	.10	.00	- .10**
Social Attachment			
Parental Attachment	- .47**	- .54**	- .15
School Attachment	- .91**	- .59**	.30*
Demographic Variable			
Age	- .07	.26	.49**
Gender	2.26**	1.76**	- .15
Contextual Factors			
Delinquent Friends	- .01	.00	- .01
Neighborhood Cohesion	- .03	- .37*	- .40**
School Context	.46**	.24	- .31*
Model Statistics			
AIC	2301.29	2259.46	
Vuong test		3.84**	

\* p < 0.05, \*\* p < 0.01

Examining the impact of *contextual factors* such as *neighborhood* and *school contexts*, we see that such factors have a significant influence on victimization risk, while *delinquent peers* do not have any significant relationship. Notably, the negative binomial regression did not find any significant influence of *neighborhood cohesion*; however, the ZINB analysis presents a polar effect of *neighborhood cohesion* on victimization. It seems that neighborhood cohesion decreases the likelihood of being utterly immune to victimization, but also predicts a lower likelihood of experiencing

school victimization. As for the effect of *school context*, the positive effect seen in the negative binomial model appears (in the ZINB) to be a decreasing effect on immunity likelihood and a non-significant increase in the risk of victimization.

## DISCUSSION

This study attempts to clarify the influence of immunity on the study of school victimization. Specifically, we examine the argument that predictors of victimization risk can be more precisely identified with the consideration of an immunity effect (Hope & Norris, 2013; Park & Fisher, 2017). The findings from the AIC and the Vuong model-fit tests of the ZINB analyses support this argument; when the zero-inflation parameter reflecting the immunity effect is added to the standard negative binomial model, the model-fit significantly improved. Furthermore, the ZINB analyses differentiated between the significant determinants of immunity and predictors of victimization risk. These findings are consistent with previous studies on other types of victimizations employing zero-inflated models (Park, 2015; Park & Fisher, 2017). Without considering an immunity effect, consequently, any analysis of victimization risk may not fully elucidate significant influences of covariates. It is imperative for victimization studies to at least compare the results between non-zero-inflated and zero-inflated approaches.

If the immunity effect plays a significant role in the distribution of victimizations, the question becomes how to differentiate a lower risk of victimization (i.e., a negative coefficient in the high-risk analysis  $[x'\beta]$  of the ZINB regression) from a higher likelihood of immunity (i.e., a positive coefficient in the analysis of immunity  $[z'\gamma]$  in the ZINB). Park & Fisher (2017) hypothesized that there are three groups of individuals in the population: (1) high-risk individuals, (2) ordinary people sharing a randomly-distributed chance of victimization, and (3) an immune group who are excluded from offenders' choices. Accordingly, the risk of victimization coefficient ( $x'\beta$ ) indicates the variation between high-risk individuals and ordinary people, while the likelihood of immunity represents the variation between ordinary and immune groups. In this study, for example, *neighborhood cohesion* significantly lowered the risk of victimization while also decreasing immunity. This finding implies that stronger neighborhood cohesion reduces the risk of school victimization but also indicates more students are exposed to school victimizations in the corresponding community.

It is also noteworthy that (contrary to previous theoretical arguments), findings from this study suggest that self-control, self-esteem, and the lifestyles of students have limited influence on school victimization. On the contrary, social attachments (i.e., the individual's relationship with parents and school) and contextual factors exert significant impacts on the risk of school victimizations. These findings imply that school victimizations are determined more by the status of students' adjacent surroundings and their interactions with guardians than by each student's personalities or lifestyles. It is imperative, therefore, that victim-oriented crime prevention efforts take into account the environments of individual students to understand their experience with school victimization.

Of course, this study is limited in its ability to explain all school victimization. First of all, this study fails to account for the temporal order of predictors and experiences with victimization. For example, it is possible that the significant negative effect of neighborhood cohesion on immunity may indicate that a lack of immunity in a community increases neighborhood cohesion through sharing their fears about victimization. This hypothesis necessitates further analysis that better models temporal effects. Addressing the time order is beyond the scope of the current paper, but it will be examined in future studies. Secondly, the current study analyzes school victimizations in South Korea, which likely has unique school contextual environments compared to other countries (Cho, 2017). As such, readers of this paper should be cautious about applying the theoretical findings to general settings.

Third, while the contextual factors are introduced as individual-level variables in this study, it is theoretically appropriate to address these variables as macro-level ones. Future studies should pay attention to this multilevel structures of routine activity/lifestyle perspectives. Lastly, this study employs the secondary data, which results in the limitation in the measurement of variables. We suggest future studies to introduce more adequate operationalization of variables through direct measurement of concepts.

In conclusion, this study supports the argument that immunity matters for understanding causal factors of school victimizations; disregarding an immunity effect may induce imprecise identification of victimization risk factors. Therefore, studies on victimization should employ both non-zero-inflated and zero-inflated methods and inspect differences between their results. As for causal factors of school victimization, this study finds that students' contextual status (rather than their personality or lifestyle) is the main predictor of school victimization. School crime prevention policies targeting repeated victims should focus on victims' environments

and their attachment to parents or schools. Due to limitations described above, future studies are expected to clarify the temporal aspects of immunity and extend the scope of studies to school victimizations under diverse contextual settings.

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# A Longitudinal Analysis of Sexual Assault Incidents by Race/Ethnicity

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## Abstract

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Recent evidence has suggested that sexual assault trends are relatively stable and flat. However, whether or not this trend is still observed once the data is disaggregated by race/ethnic subgroups has been largely underexplored. As such, the current study provides a descriptive analysis of sexual assault incident data from a large metropolitan city in a large Southwestern state in the United States from 2007-2017. Results indicate that race/ethnicity-disaggregated trends in the number of sexual assault incidents appear to be increasing in recent years, and this increase is more pronounced for sexual assault incidents with White and African American victims. Additional analyses revealed some interesting victim and incident characteristics associated with these race/ethnicity-disaggregated incidents as well. Study limitations and directions for future research are also discussed.

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## Key Words

sexual assault, race, ethnicity, victimization

## INTRODUCTION

Past research has suggested that as many as one in five women in the United States will be victims of sexual assault (rape) in their lifetimes (Black et al., 2011; Fisher et al., 2000; Koss et al., 1987; Tjaden & Thoennes, 2000; Tjaden & Thoennes, 2006). Furthermore, prevalence estimates have been as high as 46.5% of lesbians, 74.9% of bisexual women, and 43.3% of heterosexual women reporting sexual violence other than rape in their lifetimes (Brieding et al., 2014). These estimates are even more alarming considering that sexual assault (rape) is one of the most under-reported crimes, with evidence suggesting that greater than 60% of sexual assaults are not reported to the police (Rennison, 2002). In addition, extant research has frequently documented racial/ethnic minorities as being at an increased risk for being victims of violence (Truman & Morgan, 2016), and this disproportionately higher risk has been documented when comparing African Americans to Whites (Truman & Morgan, 2016) and when comparing Hispanics to Whites (Truman & Langton, 2015).

When considering sexual assault trend data, national data as reported by the Bureau of Justice Statistics (2015), indicated that the US rates of sexual assault have not experienced a significant change from 2006-2015, and reporting rates of sexual assault were largely the same across this same time period. With regard to sexual assault incident and victim characteristics, Sinozich and Langton (2014) have reported that the highest rates of rape and sexual assault are concentrated among females between the ages of 18-24. And, the risk for this particular age group extends to both college students and non-students, and was observed over time as well (1995-2013). Additional analyses provided evidence of variation in the rate of rape and sexual assault against females between the ages of 18-24 by race/ethnicity with higher rates being observed for Whites, followed by African Americans, and Hispanics. Finally, salient sexual assault incident characteristics have been identified in the literature as well such as the documentation of nearly two-thirds of the rape and sexual assault incidents having been reported as having occurred at night (between 6pm-6am) (Sinozich & Langton, 2014).

## Current Study

Acknowledging the descriptive trends in sexual assault incidents in the US in recent decades, what has been underexplored in the literature is whether or not this aggregate trend in the sexual assault rates in recent times necessarily applies once subgroup trends (such as race/ethnicity) are examined. Furthermore, largely absent from the sexual assault trend literature is whether or not certain victim and/or incident characteristics that have been identified as being relevant in aggregate trends differ when comparing sexual assault trends disaggregated by race/ethnicity. As such, the current study seeks to contribute to these gaps in the extant research through a longitudinal analysis of over ten years of sexual assault incident data that occurred in a large metropolitan city located in a large state in the Southwest US.

## METHODS

### Data

The data represent all officially recorded Uniform Crime Report (UCR) Part 1 sexual assault incidents from a large Metropolitan city located in a large state in the Southwest US that occurred during 2007-2017. In addition, only incidents with female victims, aged 18 and older are included in the data.

### Variables

There are a number of victim and incident characteristics captured in the data that are used for analysis in the current study. Specifically, victim characteristics include: *victim age* (measured continuously) and *victim race/ethnicity* (coded as White, African American, or Hispanic). Incident characteristics include: *year of the incident* (measured continuously as 2007-2017), *month of the incident* (measured continuously as January/month 1 through December/month 12), *summer month incident* (coded dichotomously as having occurred in May, June, July, or August=1 or having occurred in September-April=0), *day of the week of the incident* (measured continuously as Monday/Day 1 through Sunday/Day 7), *weekend incident* (coded dichotomously as having occurred on either Friday, Saturday, or Sunday=1 or having occurred on a weekday=0), and

*time of the day of the incident* (coded categorically as having occurred during 6pm-12am=1, 12am-6am=2, 6am-12pm=3, 12pm-6pm=4).

### **Analytic Strategy**

The analysis proceeds in several stages. In Stage 1, descriptive statistics are reported for the sexual assault incidents from 2007-2017. Stage 2 presents the trends in sexual assault incidents from 2007-2017 in the aggregate and disaggregated by race/ethnicity. Next, bivariate correlations are reported to examine the association between time and the number of sexual assault incidents overall and by race/ethnicity. The final stage of the analysis involves a one-way analysis-of-variance (ANOVA) and a chi-square analysis to investigate race/ethnicity differences in sexual assault incident characteristics.

## **RESULTS**

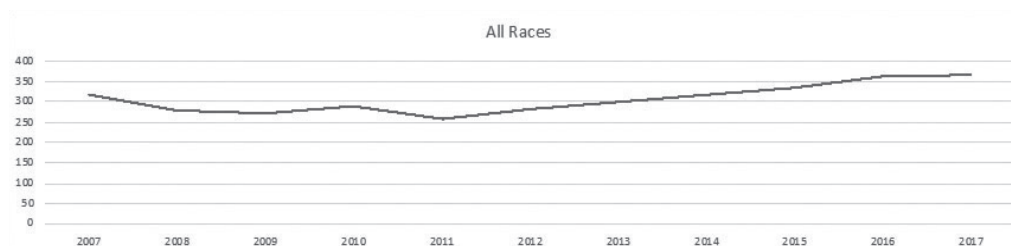
Table 1 provides the descriptive statistics. Specifically, the majority of the sexual assault victims are African American (42.85%), followed by White (31.12%), and Hispanic (26.03%). On average, the sexual assault victims were 29.99 years of age (SD= 10.83) with a range of age 18 to age 93. The sexual assault incidents were relatively evenly distributed over time, ranging from a low of 7.8% of the incidents occurring in 2011 to a high of 10.4% of the incidents occurring in 2017. The majority of the sexual assault incidents occurred during May (10.4%), and proportionally more of the sexual assault incidents occurred during the summer months in general (38.2%). In addition, the majority of the sexual assault incidents occurred on the weekend (49.2%). Finally, a majority of the sexual assault incidents occurred between 12am-6am (32.4%).

**Table 1. Sample Descriptives for Sexual Assault Incidents, 2007-2017.**

Variables	Mean (SD) or %
Victim Race	
White	31.12%
African American	42.85%
Hispanic	26.03%
Victim Age	29.99 (10.83)
Year of Incident	
2007	9.7%
2008	8.5%
2009	8.3%
2010	8.8%
2011	7.8%
2012	8.5%
2013	9.1%
2014	9.1%
2015	9.5%
2016	10.3%
2017	10.4%
Month of Incident	
January	7.8%
February	6.9%
March	7.7%
April	7.9%
May	10.4%
June	9.1%
July	8.8%
August	9.9%
September	8.9%
October	8.4%
November	7.4%
December	6.9%
Summer Month Incident (May – August)	38.2%
Day of Week of Incident	
Monday	14.3%
Tuesday	12.8%
Wednesday	12.0%
Thursday	11.7%
Friday	14.1%
Saturday	16.1%
Sunday	19.0%
Weekend Incident (Friday – Sunday)	49.2%
Time of Day of Incident	
6pm-12am	29.3%
12am-6am	32.4%
6am-12pm	18.0%
12pm-6pm	20.3%

Figure 1 graphically displays the number of sexual assault incidents by year (2007-2017) for all race/ethnicities (population-adjusted rates reported below Figure 1). As can be seen, there is a fair amount of stability in the trend, with slightly more than 300 sexual assault incidents occurring in 2007, followed by a small decline to approximately 250 sexual assault incidents in 2011, before returning to a gradual upward trend to over 300 sexual assault incidents annually from 2014-2017.

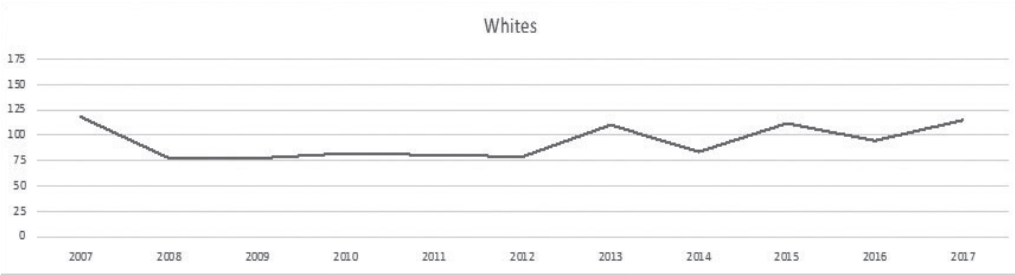
**Figure 1. Number of Total Sexual Assault Incidents by Year for Victims of Any Race/Ethnicity, 2007-2017.**



Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.74 – 3.56 per 100,000 city residents ( $M=2.05$ ;  $SD=0.51$ ).

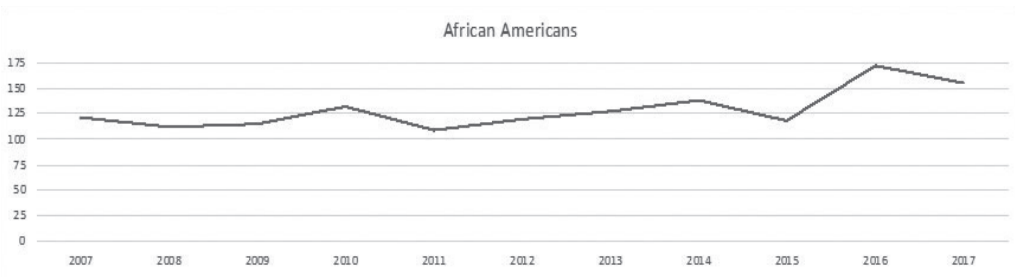
Figures 2-4 display the victim race/ethnicity-disaggregated number of sexual assault incidents by year (2007-2017) (population-adjusted rates reported below Figures 2-4). For White victims (Figure 2), roughly 120 sexual assault incidents occurred in 2007, followed by a sharp decline to approximately 80 sexual assault incidents occurring annually from 2008-2012. Following 2012, the number of sexual assault incidents occurring annually mostly increased. Comparatively, the trends in the number of sexual assault incidents with African American victims followed a similar trend as White victims, with roughly 125 sexual assault incidents occurring in 2007, followed by a fairly small decline, before gradually increasing and peaking at nearly 175 sexual assault incidents being reported in 2016. Finally, the trend data for Hispanic victims showed evidence of a small decline in the number of sexual assault incidents after 2007, with a low of approximately 60 sexual assault incidents occurring in 2011 and 2013, but an increase was observed after 2013 with a peak of nearly 100 sexual assault incidents occurring in 2015.

**Figure 2. Number of Total Sexual Assault Incidents by Year for White Victims, 2007-2017.**



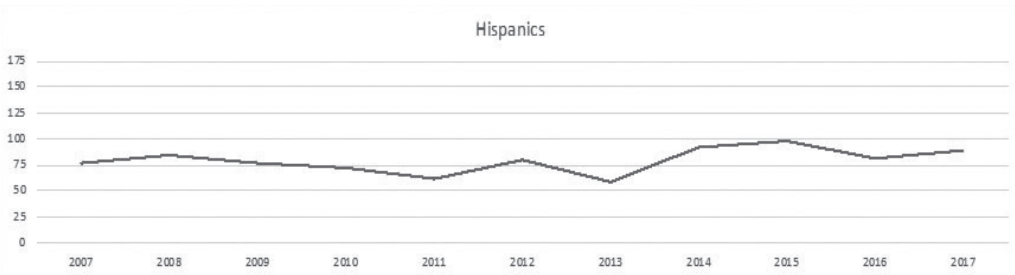
Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.16 – 1.44 per 100,000 city residents (M=0.63; SD=0.25).

**Figure 3. Number of Total Sexual Assault Incidents by Year for African American Victims, 2007-2017.**



Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.24 – 1.56 per 100,000 city residents (M=0.86; SD=0.28).

**Figure 4. Number of Total Sexual Assault Incidents by Year for Hispanic Victims, 2007-2017.**



Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.08 – 1.19 per 100,000 city residents (M=0.53; SD=0.23).

Table 2 provides the bivariate correlations between time (in months, 1-132 months representing 2007-2017) and the number of sexual assault incidents occurring

by month. Not surprisingly given the trends in sexual assault incidents described above, all of the correlations were positive, i.e., as time increased (more recent months/years) the number of sexual assault incidents increased. Regarding strength, the correlations between time and the monthly number of sexual assault incidents were moderately correlated for victims of any race/ethnicity ( $r = 0.31, p < .05$ ) and for African American victims ( $r = 0.30, p < .05$ ), whereas the correlation was weak for White victims ( $r = 0.15, p < .05$ ). Also, the monthly number of sexual assault incidents for White victims was positively and significantly correlated with the monthly number of sexual assault incidents for African American victims ( $r = 0.26, p < .05$ ).

**Table 2. Bivariate Correlations: Sexual Assault Incidents by Time and Race/Ethnicity, 2007-2017.**

	Time (in Months)	White Victims	African American Victims	Hispanic Victims
White Victims	0.15*	-		
African American Victims	0.30*	0.26*	-	
Hispanic Victims	0.10	0.07	0.13	-
Victims of Any Race/Ethnicity	0.31*	0.61*	0.72*	0.55*

\* $p < .05$  (one-tailed)

The results from the ANOVA are displayed in Table 3. As illustrated, there were statistically significant racial/ethnic mean differences ( $p < .05$ ) observed for victim and incident characteristics. For instance, White victims were older on average ( $M = 31.29, SD = 11.21$ ), followed by African American victims ( $M = 30.08; SD = 11.14$ ) and Hispanic victims ( $M = 28.18; SD = 9.43$ ). Sexual assault incidents also, on average, occurred later in the year for White victims ( $M = 6.63; SD = 3.29$ ), followed by African American victims ( $M = 6.56; SD = 3.32$ ), and Hispanic victims ( $M = 6.29; SD = 2.26$ ). No significant mean differences were observed when examining the day of the week that the sexual assault incident occurred by race/ethnicity in general, but a chi-square analysis indicated that there was a statistically significant association between race/ethnicity and the incident occurring on a weekend versus on a weekday ( $\chi^2 = 6.52, p < .05$ ). Finally, a chi-square analysis indicated that there was a statistically significant association between victim race and the time of the day incident ( $\chi^2 = 18.15, p < .05$ ), with a greater percentage of incidents with White victims

occurring between 12am-6am (36.6%) compared to incidents with African American (29.8%) and Hispanic (31.7%) victims.

**Table 3. ANOVA and Chi-Square Results: Sexual Assault Incident Characteristics by Race/Ethnicity, 2007-2017.**

	Victim Age*	Month of Incident*	Summer Month Incident	Day of Week of Incident	Weekend Incident*	Time of Day of Incident (6pm-12am; 12am-6am; 6am-12pm; 12pm-6pm)*
White Victim	31.29 (11.21)	6.63 (3.29)	38.8%	4.27 (2.09)	51.3%	28.4%; 36.6%; 15.8%; 19.2%
African American Victims	30.08 (11.14)	6.56 (3.32)	37.5%	4.15 (2.06)	46.7%	31.0%; 29.8%; 18.0%; 21.2%
Hispanic Victim	28.18 (9.43)	6.29 (2.26)	38.3%	4.30 (2.15)	51.1%	27.5%; 31.7%; 20.6%; 20.2%
Victim of Any Race/Ethnicity	29.99 (10.83)	6.51 (3.30)	38.2%	4.23 (2.09)	49.3%	29.3%; 32.4%; 18.0%; 20.3%

Note. Standard deviations in parentheses.

\*p<.05 (one-tailed).

## DISCUSSION

The current study sought to provide an examination of race/ethnicity-disaggregated trends in sexual assault incidents over time in general, and to identify whether or not victim and/or incident characteristics distinguished these trends. Several important findings emerged from this effort and are detailed below.

Consistent with the literature (Bureau of Justice Statistics, 2015), the results demonstrated that the aggregate trends in the number of sexual assault incidents were largely stable during the time period examined (2007-2017), although there was a notable increase in the frequency of sexual assault incidents occurring annually in more recent years. In contrast, yet consistent with prior research documenting race/ethnic differences in victimization risk (Truman & Langton, 2015; Truman & Morgan, 2016), once the overall trend in sexual assault incidents was disaggregated by race/ethnicity a different picture emerged. Specifically, larger fluctuations were observed in the annual trends for sexual assault incidents involving White and African American victims. Subsequent bivariate analysis demonstrated statistically significant and positive correlations for time (in months) and the number of sexual assault incidents

overall as well as for sexual assault incidents involving White and African American victims. Or in other words, as time (in months) increased (i.e., more recent months/years) so too did the number of sexual assault incidents involving White and African American victims. Additional analyses involving victim and incident characteristics that have been the focus of prior research (Sinozich & Langton, 2014) revealed significant race/ethnic subgroup differences as, on average, White sexual assault victims were older, and the incidents involving White sexual assault victims, on average, occurred later in the calendar year. Also, a greater percentage of White sexual assault victim incidents occurred between 12am-6am and on the weekends compared to sexual assault incidents involving African American and Hispanic victims.

These results notwithstanding, there are several limitations that are worth noting. First, the data relied on in the current study is drawn from one city, in one state in the US, albeit a large metropolitan city in a large US state. Nevertheless, the degree to which these results would replicate among smaller cities, cities in other states, or in jurisdictions around the globe is open to further inquiry. Second, the sexual assault incident data is official data. It is widely known that sexual assault is one of the most under-reported crimes to the police (Rennison, 2002). Therefore, future research is encouraged to examine whether these results would also apply using self-reported victimization survey data and/or triangulating data across multiple methods and sources when data exist. Third, the current study involved only three racial/ethnic groups for examining subgroup differences in sexual assault incident trends. Future research is encouraged to include a wider variety of other racial/ethnic groups (i.e., Asians, Native Americans, etc.) and/or racial/ethnic subgroups in different geographical, cultural, and international contexts when data are available. Finally, future research should make an effort to apply more sophisticated analytical techniques such as time series analysis or growth curve models to further analyze the temporal and dynamic factors that may influence sexual assault incident trends.

Ultimately, sexual assault is a US and global issue that is associated with a host of adverse consequences for victims such as substance abuse, self-injury, depression, suicide, violence against others, shame, chronic fear, eating disorders, anxiety, dysfunctional relationships, physical injury, and illness (Breiding et al., 2008; Chen et al., 2010; Chrisler & Ferguson, 2006; Ochs et al., 1996; Plichta, 2004; Sheridan & Nash, 2007). It is therefore important that research continues to further dissect the aggregate trends in sexual assault incidents by subgroups, and do so with a lens on the implications that subgroup trends and related incident characteristics have for sexual assault prevention and intervention (Banyard, Moynihan, & Plante, 2007; Coker et

al., 2011; Foshee et al., 1998, 2000, 2005; Gidycz et al., 2001, 2006, 2011; Powers & Leili, 2016; Wolfe et al., 2009).

Finally, these results have implications for urban policy in that it is well known that concentrated disadvantage, a lack of informal social control, low collective efficacy, and other structural factors are related to violence including sexual violence (Capaldi et al, 2012). Implementing place-based policing approaches at crime hot spots have been documented as being a successful initiative to improve collective efficacy and social capital (Weisburd et al., 2015), which would also theoretically lead to a reduction in violence including sexual assault. In addition, the Safe Dates Program (Foshee et al., 1998, 2000, 2005) is one such program that has been rigorously evaluated and consistently demonstrated as being an effective intervention for sexual violence prevention (Jennings et al., 2017). The curriculum for this program focuses on topics such as gender stereotyping, conflict management, and increased services for victims in the community. The larger scale adoption and implementation of this type of evidence-based programming in urban environments would likely yield a noticeable reduction in sexual assault as well.

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# Insecurity and Avoidance Behavior among Iraqi Women: The Effects of Displacement and Discrimination

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## Abstract

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Insecurity and fear of crime experienced by women has been studied in several developed and developing countries, including the Middle East; however, a paucity of research exists regarding predictors among Iraqi samples. In addition, few studies examined the effects of conflict-related displacement and experiences of discrimination on women insecurity. In the current study, we investigate the effects of displacement, both conflict-related and otherwise, as well as the experience of discrimination on Iraqi women's feelings of insecurity and avoidance behaviors. Based on a recent, nationally representative dataset collected by the UNICEF (the Multiple Indicators Cluster Survey for Iraq, 2018), our multilevel analyses of over 30,000 adult women in more than 18,000 Iraqi households across the country suggests that Iraqi women who experienced conflict-related displacement, other forms of displacement, and discrimination were much more likely to report feelings insecure and avoiding being alone at night than women who did not have these experiences.

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## Key Words

Conflict-Related Displacement, Discrimination, Fear of Crime, Iraq, Women Insecurity

## INTRODUCTION

Feelings of insecurity and fear of crime have generated a great deal of criminological interest over the past several decades (Box, Hale, & Andrews, 1988; Ferraro, 1995; Fisher & Sloan, 2003; War & Stafford, 1983; Wilcox-Rountree, 1998). A substantial body of empirical research indicate that levels of fear are contingent on a score of compositional and contextual factors. From approaches regarding “risk interpretation” to those of “general opportunity” (Cook, 1986; Ferraro, 1995; Wilcox-Rountree, 1998), fear-enhancing cues about the prospect of being victimized appear to be influenced by individual measures of age, race, and gender, as well as aggregate measures of neighborhood location and disorder. These studies generally suggest that insecurity and fear of crime are higher among the elderly (Braungart, Braungart, & Hoyer, 1980; Clemente & Kleiman, 1976; Holloway & Jefferson, 1997), women (De Groof, 2008; Ferraro, 1996; Kelly & DeKeseredy, 1994), racial and ethnic minorities (Callanan, 2012; Chiricos, Hogan, & Gertz, 1997; Ortega & Myles, 1987), those of lower socioeconomic status (Madriz, 1998; Stafford, Chandola, & Marmot, 2007; Will & McGrath, 1995) and, relatedly, those living in areas characterized by higher levels of social disorganization (Ferraro, 1995; LaGrange, Ferraro, & Supancic, 1992; McGarrell, Giacomazzi, & Thurman, 1997; Skogan, 1990). Importantly, these effects are not uniform across social context, and some studies indicate that the sociocultural context of everyday life (in which individuals reside) influence fear by moderating other correlates (Wilcox et al., 2009).

Yet despite the consistency of results across a large number of studies, the majority of extant research on insecurity and fear of crime continues to be based on samples in the United States and other westernized countries, such as Great Britain or Canada (Micelo, Roccato, & Rosato, 2004; Wilcox et al., 2009). Fewer studies have focused on populations within developing countries, including those in the Middle East. This is problematic for at least three reasons. The first reason, as previously mentioned, is that many of the identified correlates—including gender, race, ethnicity, and SES—likely vary substantially according to social and cultural context. As Wilcox and colleagues (2009) caution, researchers devoted to understanding the casual mechanisms associated with insecurity and fear of crime should move “[...] away from the tradition of understanding the direct effects of sociodemographic characteristics [...], with focus instead shifting toward better understanding how such

characteristics contextualize the correlates of fear” (p. 343; emphasis added). If the correlates of fear vary across different subgroups within and between populations, then it is likely to create differential sensitivity to risk (Warr, 1987).

The second reason is that sensitivity to risk might be especially high within countries that have recently faced political instability, strife, conflict, and war. For example, a number of Middle-Eastern countries, including Iraq and Iraqi Kurdistan, have been exposed to decades-long violence and war (particularly with members of the Islamic State, also known as ISIS or ISIL, in recent years) which has resulted in mass civilian casualties, ethnic cleansing (i.e., genocide) and ethnic discrimination, as well as forced geographic displacement (Banta, 2008; Benaim, 2018; Lischer, 2008). This “history of violence,” both past and present, is likely to have affected perceptions of insecurity and fear among Iraqi and Iraqi-Kurdish citizens which, in turn, could produce significant variation regarding relevant predictor variables.

A third and more general reason is the need for replication of criminological studies among understudied populations and topics (Cullen, Myer, & Latessa, 2009; McNeeley & Warner, 2015). In this regard, it is important to create and contribute to—through repeated observation, over time, and across social context—a body of literature devoted to examining the unique historical and contextual experiences of individuals who reside in different countries, with the aim of informing culturally-specific policies to address the needs of those directly impacted. Presumably, some factors affecting insecurity and fear of crime in Iraq or the Middle-East are different from those in the UK or the US, while other factors may be similar and more generalizable across cultures (see, e.g., Cohen & Rotem-Mindali, 2018; Hagan et al., 2015; Wilcox et al. 2009).

Taking these issues into consideration, the present study contributes to the growing literature on the correlates of insecurity and fear of crime by examining a large, nationally representative sample of Iraqi women. More specifically, we examine the effects of displacement (conflict-related or otherwise) and the experience of discrimination on the insecurity of Iraqi women. Our data also allow for the analysis of avoidance behaviors—a topic much less common in the criminological vernacular (May et al., 2010). Understanding fear of crime and insecurity among Iraqi women is also important given the consequences of fear on their everyday life. Lorenc et al. (2012) posited multiple ‘pathways’ regarding the consequences of fear of crime on wellbeing (see also, Shie, 2018). First, fear of crime can negatively impact mental health by generating stress and anxiety. Second, it can limit movement outside the home, leading to isolation, less social interactions, and less physical activities. For

example, Iraqi women may have fewer friends and practice fewer sports because they believe it will be safer for them to just stay at home. Third, fear of crime can have ecological effects: the community as a whole can experience decreased trust and cohesion because of fear of crime, above and beyond individual feelings of insecurity.

### **Displacement , Discrimination , and Fear of Crime in the Middle East**

Few studies of insecurity and fear of crime exist that examine data based Middle Eastern samples. Of those that do, none are based on samples of Iraqi women. For instance, using an innovative linkage of two surveys from Baghdad, Hagan and colleagues (2015) found that the experience of threats and neighborhood-level fear of going out at night since the United States military forces invaded in 2003 were associated with a greater likelihood of (mainly Sunni Muslim) residents leaving or fleeing the city (see also Hagan and Kaiser, 2018; Hagan et al., 2016). Likewise, Wilcox and colleagues (2009) found that Turkish female students were more fearful of possible terrorist attacks relative to their male counterparts (see also Karakus et al., 2010). Using data from Israel, Fishman and Mesch (1996) observed similar patterns whereby women were more fearful of family violence, violent assault, and property crimes than men. No gender differences were reported regarding fear of fraud, however. Cohen and Rotem-Mindali (2018) also studied fear of terrorism among citizens in the West Bank and found that female drivers were more fearful of a potential terrorist attack than male drivers.

Given that most studies of insecurity and fear of crime have been conducted in Western, stable countries (Collins, 2016), there is limited research on the effect of forced displacement/migration on fear of crime levels (Christensen and Harild, 2009; Hagan et al., 2015). There is also a paucity of research on migration and fear of crime from the migrants' perspective—the majority of which is also based on U.S. samples (Andreescu 2013, 2015). For example, Brown and Benedict (2004) found that immigrant youths were more fearful of crime (including being the victim of violent assault with a weapon) than non-immigrant youths in a sample of Texas high school students near the Mexican border. Similarly, Lee and Ulmer (2000) found that Korean Americans with lower levels of English proficiency were more fearful of crime. Andreescu (2013) also found that immigrants residing in the UK were 43% more likely to be fearful of violent victimization than non-immigrants, and among the immigrant sample, those who were non-English speakers at home were

88% more likely be fearful of violent victimization than those who were English speakers at home (see also Johnson, 2005). However, Andreescu (2015) did not observe significant differences in fear of violent crime between immigrants and non-immigrants in France.

While the relationship between discrimination and insecurity/fear of crime has been examined in a few studies, it has been peripheral in focus (Collins, 2016). For example, Andreescu (2013, 2015) did not observe a significant pattern between either perceived discrimination or belonging to a discriminated group and fear of crime in her analysis of UK and French surveys. In the same way, Hagan and colleagues (2015) found that Baghdad residents were more likely to move out of the city if they experienced harassment, but the effect was fully mediated by the experience of threats. Thus, their results suggest that specific threats, and not harassment in general, produced the most fear. In their study of Arab-Americans living in the U.S., Wu and colleagues (2017) also found that respondents who perceived the police as discriminatory toward ethnic/religious groups had higher fear of crime generally and higher fear of ‘hate’ crime (i.e., motivated by bias).

## **Gender and Fear of Crime**

The extent to which gender impacts feelings of insecurity and fear of crime has been studied extensively over the past three decades and suggests that women generally report higher levels of fear of crime and insecurity than men—the likes of which are especially pronounced regarding fear of sexual assault or violence (Collins, 2016; Hale, 1996; Pain, 2000). For instance, Collins’ (2016) meta-analysis of 114 fear of crime studies, producing 572 effect sizes, showed that women, on average, had higher levels of fear of crime than men, including a fear of being sexually assaulted when walking alone. Furthermore, gender was the strongest predictor of fear of crime among a list of 12 predictors when control variables were omitted, and the third strongest predictors in multivariate analyses with control variables.

Women also tend to report greater concerns about threatening behaviors that may not reach the threshold of a criminal act, such as “being followed, stared at, and shouted at in the street” (Goodey, 1994, p. 197)—acts which may be especially prevalent in specific social contexts, such as university campuses (Fisher and Sloan, 2003; Kelley and DeKeseredy, 2004). In the same way, recent research indicates that women must cope with greater risks of Internet and cell phone harassment, such as

threatening or sexually explicit emails, text messages, and Facebook posts (Henry and Powell, 2015).

### **The Current Study**

The goal of the current study is to examine the effects that indicators of displacement and discrimination have on Iraqi women with respect to reported feelings of insecurity/fear of crime and certain avoidance behaviors based on a large, nationally representative sample. In particular, we focus on why Iraqi women might feel unsafe walking alone or being home alone at night, and also why some women engage in various types of avoidance behaviors, such as never walking alone or staying home alone at night. Although it is possible that these behaviors may reflect considerations other than fear, including cultural expectations and gender-roles in Iraqi society, we submit that are at least partially influenced by fear. As we explain in subsequent paragraphs, the respondents were specifically asked about fear of crime, not cultural expectations or gender-roles. This study is also the first large-scale quantitative analysis of insecurity and fear of crime among women in Iraq. Based on a review of the current literature, we formulated three main hypotheses:

- H1. Iraqi women who experienced conflict-related displacement will be more likely to report feeling unsafe and having engaged in avoidance behaviors. Conflict-related displacement is defined as relocation to flee violence, battles, the ISIS invasion and occupation of territories, or other violent conflicts.
- H2. Iraqi women who experienced displacement for other reasons will be more likely to report feeling unsafe and having engaged in avoidance behaviors, but the patterns should be weaker than for conflict-related displacement.
- H3. Iraqi women who experienced discrimination will be more likely to report feeling unsafe and having engaged in avoidance behaviors.

## METHODS

Our analyses are based on data from the Iraq Multiple Indicator Cluster Survey 2018 (UNICEF, 2019). The Iraq Multiple Indicator Cluster Survey (MICS) sampled 20,214 households, 30,660 women (age 15-49), and the main caretakers (typically the mother) for 16,623 children under 5-year-old and 15,595 children between the age of 5 and 17. The data collection was completed in 2018 by the Central Statistical Organization (CSO) and the Kurdistan Region Statistical Office (KRSO) in collaboration with Ministry of Health, and as part of the Global MICS Program. UNICEF provided technical and financial support for the project. Developed by UNICEF in the 1990s, the Iraq MICS 2018 is part of an established tradition of survey data collection based on the Global MICS Program. It serves as an international multi-purpose household survey program to support countries in collecting internationally comparable data on a wide range of indicators on the situation of children and women. MICS surveys measure key indicators that allow countries to generate data for use in policies, programs, and national development plans. More recently, the MICS has also been used to monitor progress towards Sustainable Development Goals (SDGs) and other internationally agreed upon commitments.

Our study focuses exclusively on the adult women and household sections of the survey. The sample size for the number of households is 18,650 because not all households included adult women. There were very few missing data (less than 1%) and these cases were coded as a negative answer for the specific questions. For example, if respondents did not know whether or not they experienced discrimination, they were coded as not experiencing discrimination. This is based on the assumption that even if the respondent experienced some discrimination, it was not significant enough to be reported to the survey interviewer. Although this approach to missing data may lead to minor measurement error, very few cases were missing, and it has the advantage of maintaining a consistent analytical sample across all models. In addition, our sample is very large and our results are strong and consistent—the patterns of which cannot be attributed to minor measurement error.

### Measurement

We created two categorical dependent variables that tap feelings of insecurity and avoidance behavior of Iraqi women. The first dependent variable, *walking alone at*

*night*, is based on how safe the respondents felt walking alone at night. Women who reported feeling unsafe or very unsafe walking alone at night were categorized as “unsafe”; women who reported that they never walk alone at night were categorized as “never”; and women who reported feeling safe or very safe walking alone at night were categorized as “safe” (the reference category). Similarly, the second dependent variable, *home alone at night*, is based on the extent to which women reported feeling safe while being home alone at night. Women who reported feeling unsafe or very unsafe while home alone at night were categorized as “unsafe”; women who reported that they never stayed home alone at night were categorized as “never”; and women who reported feeling safe or very safe while being home alone at night were categorized as “safe” (the reference category).

Our primary independent variables include measures of displacement and discrimination. *Conflict-related displacement* is a binary variable based on whether the household in which the woman lived had to relocate to a different location to flee violence, battles, the ISIS invasion and occupation of territories, or other violent conflicts (1 = yes). We also note that those women who reported fleeing violence from the Iraqi military or affiliated militias is coded as 1, since it is a conflict-related displacement. *Other displacement* is also a binary variable based on whether the household in which the woman lived had to relocate to a different location for reasons not related to violent conflicts, including employment and economic opportunities, moving to a bigger city, or moving to get married or reunite with family members (1 = yes). *Discrimination* is a binary variable based on whether the respondent personally experienced harassment or negative comments during the last year because of her gender, age, religion, ethnic membership, or if she felt discriminated against for any other reason (1 = yes).

Congruent with other fear of crime studies (Collins, 2016; Hale, 1996), our analyses also include control variables measuring the respondents’ socio-economic and demographic characteristics, past experiences of victimization, and media use. We created three binary variables to measure the respondents’ media usage: *traditional media usage*, for women who reported watching the news on TV, listening to the news on radio, and/or reading the newspapers regularly (1 = yes); *Internet usage*, for women who use the Internet regularly (1 = yes); and *social media usage*, for women who regularly use social media platforms such as Facebook and Twitter (1 = yes). Interestingly, media use could have two opposite effects. According to the Cultivation hypothesis, fear of crime is cultivated by the media (Shi, 2018). Most people do not have direct contact with criminals or the criminal justice system, so

their understanding of crime is based on media coverage and framing. Crime stories are framed to be more violent and dramatic than the majority of actual crimes being committed. Thus, those who rely on the media to understand crime and the risks to their own safety will tend to overestimate the levels of violence in society. In the current context, Iraqi women who use traditional and online media more frequently may feel more insecure if the news they are exposed to are predominantly negative: ISIS attacks, ‘honor’ killings, gender-based violence, kidnappings, etc. On the other hand, the media also report positive news that can make people feel safer: reporting on ISIS defeats, criminals being arrested, government spending on security initiatives, etc. Therefore, the effects of the media on Iraqi women insecurity could be either positive or negative, depending on the types of news they are exposed to. *Prior victimization* is measured using two binary variables: (1) whether the respondents reported experiencing one or more physical assault(s) during the last three years and (2) whether they reported experiencing one or more robberies during the last three years. Unfortunately, the survey did not ask questions about sexual victimization, possibly for cultural reasons in a conservative country like Iraq. It is possible, however, that some women reported a sexual assault on the physical assault question.

*Socioeconomic status* is based on measures of both wealth and education. The *income/wealth index* is a quintile-based measure (1-5) that provides an overall level of economic resources of the households, considering both the urban and rural measurement of economic resources. For example, an urban household can score high on the index because the head of the household has a high salary and the family owns a house, while a rural household can also score high even if the head of the household has a lower salary, but owns a lot of land and farm animals. Importantly, the index was created by UNICEF in collaboration with local experts from Iraq and Kurdistan. Education is based on the level of education obtained by the respondent and is coded as (1) ‘less than secondary education’ (the reference category), (2) ‘secondary education’, (3) ‘diploma’ (two-year college-level education but less than a bachelor’s degree), or (4) ‘university education’ (a bachelor’s degree or higher). Because the survey did not collect data on the exact *age* of the respondents, our measure of age is based on a seven-category ordinal variable whereby higher categories correspond with older age groups. We also include a binary measure of *functional disability* based on whether the respondents reported having health problems that limited their ability to accomplish daily regular activities (1 = yes).

Our measure of *region* is based on the 18 governorates sampled across Iraq and Iraqi Kurdistan, which includes urban and rural samples (rural = 1). The variable

*Iraqi Kurdistan Region* measures the geographic location of the households and is coded 1 if the household is located in the semi-autonomous region of Kurdistan and 0 if located anywhere else in Iraq (often referred to as Iraq Prime). Finally, we omitted the respondents' religion as a covariate because 97% of the sample reported being Muslims. In addition, if women are more insecure because they feel persecuted or discriminated against because of their religion, the effect should be captured by our measure of discrimination (religious discrimination is included in the measurement).

## Analysis

Our analyses are based on multilevel multinomial logistic regression, because the survey is based on multiple women sampled from the same household (i.e., women [level 1] are clustered in households [level 2]). Our models therefore account for the possibility that women from the same household are more similar with respect to feelings of insecurity and avoidance behaviors than random women across different households (see, e.g., Raudenbush and Bryk, 2002). The estimates are based on uncentered variables with robust standard errors, as we are only controlling for clustering. Although there is no variance inflation factor (VIF) test for multilevel multinomial logistic regression, we examined possible multicollinearity issues with a correlation matrix between all the predictors used in this study (results not presented in Table). The strongest correlations were between Internet media and social media usage ( $r = .69$ ;  $p < .01$ ), the income/wealth index and the Iraqi Kurdistan Region ( $r = .45$ ;  $p < .01$ ), and the income/wealth index and rural settings ( $r = -.44$ ;  $p < .01$ ). Given our large sample size, these correlations do not indicate that the variables are measuring the same statistical information that would cause problematic levels of multicollinearity. In addition, none of the stronger correlations involve our main independent variables of displacement and discrimination.

## RESULTS

**Table 1. Descriptive Statistics (N = 30,660 Women in 18,650 Households)**

	%
<b>Dependent Variables (Level 1)</b>	
Walking Alone at Night	
- Safe (Ref.)	49.5%
- Unsafe	13.3%
- Never Walk Alone at Night	37.2%
Home Alone at Night	
- Safe (Ref.)	63.7%
- Unsafe	11.2%
- Never Home Alone at Night	25.1%
<b>Predictors (Level 2)</b>	
Displaced - Conflict	10.2%
Displaced – Other	46.9%
Rural	33.3%
Wealth Index (Mean)	2.9
Iraqi Kurdistan Region	13.5%
<b>Predictors (Level 1)</b>	
Discrimination	12.2%
Physical Assault	1.7%
Robbery	1.9%
Traditional Media User	90.5%
Internet User	34.9%
Social Media User	24.4%
Age Group (Mean)	3.5
Less than Secondary Education (Ref.)	71.3%
Secondary Education	13.1%
Diploma	4.7%
University Education	10.9%
Functional Disability	4.4%

Descriptive statistics are presented in Table 1. Approximately half (49.5%) of the respondents reported feeling safe walking alone at night while nearly two-thirds reported feeling safe while home alone at night. In contrast, 13% of women reported feeling unsafe walking alone at night and 37% reported that they never walk alone at night, while 11% of women reported feeling unsafe being home alone at night and 25% reported that they never stay home alone at night. Approximately 10% of households experienced a conflict-related displacement while nearly half (46.9%) of households were also displaced for other reasons. About 12% of respondents reported

having experienced discrimination. Interestingly, physical and robbery victimizations were uncommon among respondents, with less than 2% reporting such incidents.

**Table 2. Multilevel Multinomial Logistic Regression with Robust Standard Errors  
Predicting Feelings of Insecurity and Avoidance Behavior  
(Coefficients are Odds Ratios; N = 30,660 Women in 18,650 Households)**

	Model 1: Walking Alone at Night		Model 2: Home Alone at Night	
	Unsafe	Never Alone	Unsafe	Never Alone
<b>Level 2 - Households</b>				
Displaced - Conflict	1.52**	1.41**	1.72**	1.50**
Displaced - Other	1.29**	1.77**	1.21**	1.36**
Rural (Ref = Urban)	.84**	.69**	.87**	.85**
Wealth Index	.95**	.85**	.87**	.89**
Iraqi Kurdistan (Ref = Iraq)	.13**	.30**	.22**	.38**
<b>Level 1 - Individuals</b>				
Discrimination	2.33**	1.60**	1.96**	1.65**
Physical Assault	1.56**	1.54**	1.32*	.80
Robbery	1.76*	1.32*	2.10**	1.65**
Traditional Media User	.89**	1.31**	.86*	1.09
Internet User	1.22**	1.37**	1.07	.86**
Social Media User	.89*	.90*	.92	1.15**
Age Group	.85**	.78**	.85**	.77**
Secondary Education	.88*	1.01	.90	1.03
Diploma	.88	.86*	.89	.89
University Education	.86*	.88**	.75**	.94
Functional Disability	1.24*	1.29**	1.40**	1.25**
Explained Variance (Reduction in Variance Component)	.03	.06	.03	.08

\*\* ( $p < .01$ ); \* ( $p < .05$ )

Results of our multilevel multinomial logistic regressions predicting insecurity and avoidance behavior are presented in Table 2. Women who experienced a conflict-related displacement were 52% more likely to feel unsafe walking alone at night, 41% more likely to never walk alone at night, 72% more likely to feel unsafe staying home alone at night, and 50% more likely to never stay home alone at night. The patterns are not limited to conflict-related displacement, however. Women who were displaced for other reasons were 29% more likely to feel unsafe walking alone at night, 77% more likely to never walk alone at night, 21% more likely to feel unsafe staying home alone at night, and 36% more likely to never stay home alone at night. Results from Table 2 also show strong effects of discrimination. Women who reported experiencing

discrimination were 2.3 times more likely to feel unsafe walking alone at night, 60% more likely to never walk alone at night, 96% more likely to feel unsafe staying home alone at night, and 65% more likely to never stay home alone at night.

Regarding our covariates, women living in rural settings felt safer than women living in larger urban settings and were less likely to report never walking alone or staying home alone at night. Women from wealthier households also felt safer than women from poorer households and were less likely to report never walking alone or staying home alone at night. We also observed a very strong pattern for women living in the Iraqi Kurdistan Region: Relative to respondents living in the Iraq Prime Region, they were 87% less likely to feel unsafe walking alone at night, 70% less likely to never walk alone at night, 78% less likely to feel unsafe staying home alone at night, and 62% less likely to never stay home alone at night.

Women who experienced physical or robbery victimization were also much more likely to feel unsafe, to never walk alone, or to stay home alone at night (with the exception of physical assault). The effects for media usage were mixed, with a combination of positive patterns, negative patterns, and null effects. Interestingly, older women were less likely than younger women to report feeling unsafe and never walking alone or staying home alone at night. This may suggest a cohort effect or the presence of strong cultural norms protecting older women. However, we cannot investigate these hypotheses with the current data. The effects for education are mostly mixed and non-significant, with one exception: University-educated women tended to feel safer than women with less than a secondary education. Finally, women who lived with functional disabilities affecting their daily activities were more likely to report feeling unsafe and never walking alone or staying home alone at night.

## DISCUSSION

The goal of the current study was to examine the effects of displacement and discrimination on Iraqi women with respect to insecurity, fear of crime, and various avoidance behaviors. This study was also the first large-scale quantitative analysis of insecurity and fear of crime among Iraqi women. Our results suggest that the experience of conflict-related displacement, other forms of displacement, and discrimination are robust predictors of insecurity and avoidance behaviors among Iraqi women. We now discuss these results in greater detail, based on our hypotheses and the prior literature on insecurity and fear of crime.

## **The Impact of Displacement and Discrimination**

We observed strong support for the hypothesis that the respondents' experience of conflicted-related displacement corresponds with higher levels of insecurity and engagement in avoidance behaviors—the likes of which were consistent across all outcomes and comport with past literature regarding the effects that state violence has on feelings of safety among individuals (cf. Clemente & Kleiman, 1977; Koonings, 1999). Indeed, research on samples of refugees suggests that the process of displacement may be life-threatening and is often accompanied by events such as assaults, robbery, and overcrowded living situations, and have been previously linked to higher rates of stress and psychological disorders, such as post-traumatic stress disorder (Hodes, 2000; Jaycox et al., 2002; Sack, Him, & Dickason, 1999). Given that Iraqi citizens have been constantly exposed to a “history of violence,” characterized by decades of political instability and civil war resulting in mass casualties and forced displacement, it is perhaps unsurprising that conflict-related displacement significantly contributes to variation in fear of crime and accompanying avoidance behaviors. However, with respect to our sample, it could be that Iraqi women are particularly affected by conflicted-related displacements because of the culturally defined social roles that characterize many Middle Eastern countries.

Research indicates that divisions of labor may be especially pronounced in Middle Eastern societies, where expectations regarding parenting and workforce participation are clearly delineated among males and females (Read, 2003; Sikdar & Mitra, 2012). The patterns observed among our sample are partially supportive of this. For example, of the respondents who reported both having children and serving as their primary caretaker, 99.5% identified as women. As some recent studies suggest (Feldman, Vengrober, Eidelman-Rothman, & Zagoory-Sharon, 2013; van Ee, Kleber, & Mooren, 2012), it could be that the added responsibility of caring for children (and ensuring their safety by extension) exacerbates the already stressful process of having to relocate due to political violence.

In the same way, the Iraqi armed forces tasked with responding to terrorism and violence against the State continue to be overwhelmingly male. While this trend is uniform across many societies, disparities in enrolment and participation (specifically, combat-related positions) are becoming less pronounced among Westernized countries, such as Canada and the United States (CBC News, 2006). To the extent that Iraqi (and other Middle-Eastern) women are relegated to peripheral, non-combative roles—such as administrative- or logistic-based positions—that reaffirm the status

quo (Gonzalez-Perez, 2008), it could be that they are more fearful of crime and more likely to engage in avoidance behaviors because they have been restricted from training and lack the necessary skills to respond to violent situations.

We also found that support for the hypothesis that respondents who were displaced for other reasons would be more likely to report higher levels of insecurity and avoidance behaviors, but not to the same extent as those whose displacement was the result of conflict (with the exception of never walking alone at night). It is possible that conflict-related displacements have more of a traumatizing effect on respondents, who may have fled an area or region because the situation with which they were faced presented an immediate threat to their lives and those of their children. Conversely, those who were displaced for other reasons, such as employment opportunities, may not have had to act with the same degree of immediacy. We return to this point in our discussion of the current study's limitations.

More generally, it could also be that other forms of displacement foster greater feelings of insecurity and fear simply because the respondents are unfamiliar with their immediate surroundings. As some research suggests, relocation represents a major life event and a change to one's environment can generate anxiety, discomfort, and "[...] coping resources far beyond those evoked by familiar routines" (Thomasma, Yeaworth, and McCabe 1990; p.18). Thus, the degree to which Iraqi women feel uncomfortable as a result of moving to a new area could manifest in the form of coping mechanisms that are reflective of feeling insecure or involve adopting various avoidance behaviors.

Finally, we observed strong and consistent support for the hypothesis that the experience of discrimination corresponds with higher levels of fear and avoidance behaviors among Iraqi women—a pattern that is also consistent with some research regarding the discrimination-fear of crime nexus (Chiricos, Hogan, and Gertz, 1997; Herda, 2016). Our measure of discrimination, which includes whether the respondent personally experienced harassment or negative comments during the last year because of her gender, age, religion, ethnic membership, is considered a criminal act in and of itself in many countries (Clements-Nolle, Marx, and Katz, 2006; Green, McFalls, and Smith, 2001; Perry, 2009). Thus, if Iraqi women equate past discrimination to a form of formal or informal victimization, we would expect similar effects to other victimization variables on feelings of insecurity, fear, and accompanying avoidance behaviors. Alternatively, even if Iraqi women do not perceive discrimination as a form of victimization, they may still interpret it as a signal of general hostility from others, which should also lead to greater insecurity and avoidance behaviors.

Although our results may have policy implications, it is unclear whether such policies could be implemented successfully in Iraq, given the current political instability, lack of basic services, and corruption. One policy would be to promote gender equality and women's rights in an effort to reduce discrimination against women. This could be implemented through the education system, awareness campaigns in the media, and advocacy groups. Another policy would be to increase the social integration of displaced families in their new community and offer counseling programs for those in needs.

## **Limitations and Future Research**

While this study produced several important findings and has contributed to a better understanding regarding the impact that displacement and discrimination have on Iraqi women, it is not without limitations. To begin, we could not investigate fear of sexual assault as a dependent variable or prior experience of sexual assault as a predictor of insecurity because no question about sexual assault were asked in the MICS. Second, it was also not possible to compare the experience of insecurity between women and men, because the survey only sampled adult women. Third, the concept of insecurity and fear of crime can be multifaceted and could include many other measurements, such as fear of family violence, fear of ISIS, fear for the safety of children, fear of property crimes— especially since Iraq is a 'cash' economy and many people carry large amounts of currency on their person or keep money in their home. Thus, we are only measuring some dimensions of fear of crime. Fourth, because the study is cross-sectional, we must be prudent with the interpretation of the temporal order of relationships. Some patterns may reflect bi-directional effects or possible reversed causality. For example, perhaps some respondents were already fearful before they experienced displacement, and their high level of fear after displacement is the continuation of their original insecurity from the past. Finally, our measure of discrimination does not allow us to differentiate between threatening and non-threatening discriminatory experiences (i.e. when a direct threat to the safety of the person is included in the discriminatory comments).

Therefore, future research on insecurity in Iraq should develop new data on the experience and fear of sexual assault and other inappropriate sexual behaviors (e.g. sexual harassment, stalking of a sexual nature, unwanted online or cell phone sexual communication). It should also develop comparative data for women and men, so that the experience of insecurity and fear of crime among men can also be

understood. Future studies should also measure insecurity with multiple variables that include many types of crime and situations. Finally, subsequent research should include a longitudinal component, so that answers for the same respondents can be compared across different points in time and the temporal order of relationships can be uncovered.

## Conclusion

In conclusion, although many studies have been published on insecurity and on women insecurity across several countries, there are comparatively fewer studies with respect to samples based on respondents who reside in the Middle East. This gap in the research is significant, given the amount of turmoil and violent conflicts in this region of the world. To our knowledge, this study is the first to examine the insecurity of Iraqi women using a large, nationally representative sample and to focus on the effects of displacement and discrimination. We found that displacement, both conflict-related and for other reasons, and the experience of discrimination are strong predictors of women's insecurity and avoidance behaviors. We maintain that many more insecurity studies (and criminological studies more generally) need to be conducted in Iraq and in the Middle East as a means of better understanding the unique challenges and barriers that respondents in this region of the world continue to face.

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# Examining the Factors of Korean Coast Guard officer Job Satisfaction: The Role of Family Harmony

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## Abstract

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Majority of the police officer job satisfaction research in the field of Criminal Justice began with an examination of demographic factors. As the research progressed, job satisfaction research has expanded to work-related factors to predict job satisfaction. Although work-related factors have benefited the job satisfaction research tremendously, further examination of job satisfaction is needed. Hence, the current study focuses on familial factors as a predictor of job satisfaction. Are officers with happier and more harmonious family have higher levels of job satisfaction? To answer this, we examine Korean Coast Guard police officers and their job satisfaction levels. In brief, the results indicate that work-related factors such as work condition, work unsafety, organizational cohesion, and work pride were significant predictors of job satisfaction. Most importantly, the familial factors such as the amount of family conversation, general relationship with family members, and family-work conflict were significant predictors of job satisfaction.

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## Key Words

Job Satisfaction, Korean Coast Guard officers, Family harmony, Family-Work Conflict

# INTRODUCTION

Police work environment has been one of the most stressful, violent, and overworked occupations. These negative work environments can have a negative impact that can lead to cynicism and low levels of job satisfaction (Crank & Caldero, 1991; Blum, 2000). Furthermore, research has found sufficient connection between low levels of job satisfaction and burnout rate (Gerhart, 1990) and low organizational commitment (Mathieu & Zajac, 1990). For that reason, job satisfaction research in policing is vital to investigate.

Job satisfaction has been studied extensively in numerous fields for past decades. Seminal job satisfaction research such as Maslow (1943), Herzberg (1968), and Locke (1969) have laid the groundwork for the scholars who followed to examine job satisfaction in various fields. Scholars from criminal justice have also extensively examined police job satisfaction and have added knowledge to the field. In doing so, prior studies have divided the determinants, or factors, of police job satisfaction into two categories: 1) Demographic factors and 2) Work-Related factors (Zhao et al. 1999; Carlan, 2007; Nalla et al. 2011; Johnson, 2012). Although the topic of police job satisfaction has been extensively examined in the past, it is safe to assume the majority of the research were based on western countries and their police officers.

Unfortunately, a handful of research on Korean police officers' job satisfaction has been examined. Although multiple Korean and other scholars have inspected job satisfaction of Korean Police officers, none has looked at Korean Coastguard police officers. Additionally, although both police officers and coastguard police officers undergo a tremendous amount of job risk and other stressors, Korean Coastguard police officers face much more job risk compared to Korean police because of the threat of violent human trafficker and pirates. Moreover, due to coastguard police officer's job characteristics, they are much more alienated from the society and from their families since they have to spend months at a time on ships due to their job. Furthermore, none of the literature that examined Korean police officers' job satisfaction have examined the familial factors that may influence the officers' job satisfaction and a limited number of western police job satisfaction literature (Howard, Donofrio & Boles, 2004) has investigated familial factors and its impact on police job satisfaction. Hence, a brief summary of what each research examined within the limited number of Korean Police job satisfaction literature is provided.

Lee (2002) inspected the influence of stress and its impact on police sergeants in Korea. The study examined whether job stress as a mediator had any influence on the external and internal factors of the organization had any impact on job satisfaction. Hwang (2008) assessed the determinants of job satisfaction of Korean police officers. Specifically, He examined whether officers had different job satisfaction levels based on the size of the city the officer worked. Jo & Hoover (2012) examined sources of job satisfaction among Korean police officers. Their study looked at the usual demographic and work-related factors but added officer duty types and its influence on job satisfaction. Kang & Nalla (2011) and Nalla & Kang (2012) examined perceived citizen cooperation, organizational climate and other factors such as perceived citizen support. Yun, Hwang & Lynch (2015) examined police stressors, job satisfaction, burnout, and turnover intentions of Korean Police officers. Finally, Jo & Shim (2015) inspected determinants of Korean police officers' job satisfaction. They specifically focused on the aspect of whether community factors had any influence on job satisfaction. As provided, a limited number of studies examined Korean police officer job satisfaction. Most importantly, no research has yet to explore the factors of job satisfaction for the Korean coast guard police officers. Additionally, police officer job satisfaction research can be broadened tremendously by examining familial factors and its impact on job satisfaction of the Korean coast guard police.

Family factors and its influence is an important aspect of job satisfaction that has not been deeply studied in the field of Criminal Justice. The negative consequences of the disruption of familial harmony are related to increased turnover intentions, parental distress and reduced job satisfaction, organizational commitment, and family satisfaction (Rathi & Barath, 2013). Collectively, the current study attempt to broaden the scope of examination beyond demographic and work-related factors. Police job satisfaction research in both Western and Asian cultures did not examine the concept of family harmony (familial factors) as a factor that influences officer job satisfaction. Fields other than Criminal Justice, such as hospitality business (Choi & Kim, 2012), education (Netemeyer, Boles & McMurrian, 1996) and probation and parole (Boles, Howard & Donofrio, 2001), and other private sector research fields, have already applied the concept of influence of family factors to job satisfaction. Then, there is no reason not to apply family harmony factors to officer job satisfaction. Therefore, the current study adds to the knowledge of Criminal Justice field in two ways: 1) by examining Demographic and Work-Related factors of job satisfaction of Korean Coast Guard officers and 2) most importantly, the current study examines the influence of familial factors of job satisfaction. Simply put, does having a happy and harmonized

family have any influence on the job satisfaction of Korean Coastguard police officers?

Prior to reviewing the literature, clarifying the definition of job satisfaction is vital. Locke (1976) argued that satisfaction is an emotion and an intangible concept. Thus, it could only be explored by self-diagnosis of the content. Hence, Locke (1976) defines job satisfaction as “pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (p. 1300). He also adds that job satisfaction is due to the discrepancies between the employee’s expectation of the job and the reality of the job (Locke, 1976). Then, the question is, how do Demographic and Work-Related factors influence job satisfaction?

### **Demographic Factors**

Numerous studies have examined the influence of Demographic factors on job satisfaction. Majority of research that took interest in the Demographic factors of job satisfaction focused on gender, race, age, rank, years of service and educational level to explain job satisfaction (Jo & Hoover, 2011); however, these studies either found weak or inconsistent relationships (Zhao et al., 1999; Carlan, 2007; Miller, Mire & Kim, 2009). For example, While Zhao et al. (1999) and Bennett (1997) concluded that gender was not a significant factor that influences job satisfaction; Buzawa (1984) concluded gender was a significant factor in job satisfaction. Similarly, while Zhao et al. (1999) found lower levels of job satisfaction for African American officers, Buzawa et al. (1994) found higher levels of police job satisfaction for African American officers. As for the officers’ rank/length of service and its influence on job satisfaction, results are also not univocal. Studies have found the rank/length of service to have a curvilinear association to job satisfaction (Burke, 1989; Griffin et al., 1978). However, Zhao et al. (1999) found a negative association while Lee (2004) found no significant effect at all.

To add to the inconsistent trend of the demographic factors, education factor also suffers inconsistency. While Dantzker (1992) found an educational level to be positively associated with the level of job satisfaction; however, Griffin et al. (1978) and Zhao et al. (1999) found no effect. Furthermore, Jo & Hoover, (2011) concluded that, after reviewing 17 studies that examined demographic factors of job satisfaction, most of them turned out to have a non-significant effect on job satisfaction among police officers, excluding experience and rank. Finally, Zhao et al. (1999) concluded in their study that officer Demographic factors alone had little effect on explaining the variations in officer job satisfaction; however, they added that when complementing

the Demographic factors with Work-Related factors, their models were greatly improved. Collectively, prior studies have failed to have univocal conclusion whether Demographic factors alone such as race, age, gender, and rank do or do not have a significant effect on the outcome of job satisfaction of police officers. Thus, the focus of police officers' job satisfaction research has shifted to adding the Work-Related factors to improve its model to examine job satisfaction.

## **Work-Related Factors**

Policing has been recognized as one of the most stressful jobs due to its inclusion of occupational and organizational stressors as an occupation (Paton & Violanti, 1999; Anshel, 2000). Due to this fact, police job satisfaction has been exposed to a tremendous amount of research. During this focused attention, Work-Related factors have received attention in social psychological research due to its importance in job satisfaction research (Cooper, Dewe & O'Driscoll, 2001). Due to Demographic factor variable's low to none explanatory power, recent research focus has shifted to Work-Related factors on police job satisfaction (Jo & Shim, 2015). Depending on the research, studies have used Work-Related factors of job satisfaction broadly. It may include the traditional Hackman & Oldham's (1975) five dimensions of job characteristics: 1) skill variety, 2) task identity, 3) task significance, 4) autonomy, and 5) feedback. However, scholars that followed added numerous additional Work-Related factors such as organizational characteristics that include job security, duty type, benefits, salary, supports from coworkers, supervisors, and job challenge (Zhao et al. 1999; Hwang, 2008; Miller et al. 2009; Nalla et al. 2011; Johnson, 2012; Nalla & Kang, 2012). Hence, the section that follows reviews the brief literature on Work-Related factors the current study examines.

Work safety is a crucial part of officers' job satisfaction. To be clear, safety is a vital emphasis for all humans. As Maslow (1943) asserted that safety needs come as a pivotal part of human needs right after physical and psychological needs. Thus, officers in the law enforcement, who put their lives at risk during duty, may feel the need of the organization to provide a safe working environment. A safe environment is defined by Gyeke (2005) as the expectation and the perception of the worker's feelings of safety in the organization. There have been studies that support the hypotheses that job satisfaction and organizational commitment increases when employees feel that their basic needs, safe working conditions, are met (Rhoades & Eisenberger, 2002). Hence, workers who put their lives at risk during duty will have

certain expectations of work safety. Then, if the workers are satisfied with the work safety of their jobs, more job satisfaction will follow.

Organizational support and subculture are also important factors in police officers' job satisfaction literature. Johnson (2012) asserts that when there is a perception of support for the individual, they are more likely to bond to the organization and increase the level of job satisfaction. Furthermore, bonds between workers will increase the level of job satisfaction (Johnson, 2012). That is, the more employees like each other, the more cohesive they become which in turn will increase job satisfaction. Hence, when officers are supported by their organization, or when the officers feel that they are supported by their organization, they are more likely to have higher levels of job satisfaction. In addition, when officers have high peer cohesiveness, they are more likely to commit to the organization and lead to higher job satisfaction.

Organizational commitment is another important Work-Related factor of job satisfaction. Organizational commitment is essential to job satisfaction since it may influence employees' loyalty to the organization and dedication to the organization (Lambert, 2003). Furthermore, organizational commitment has a positive correlation with Work-Related factors of job satisfaction (Meyer et al. 1989). Additionally, the factor that influenced organizational commitment was organizational support (Crow, Lee & Joo, 2012). That is, job satisfaction and organizational commitment are intertwined with one another. Vandenberg & Lance (1992) asserted that persons with high job satisfaction cultivate more commitment to the organization. Furthermore, Schimidt (2006) concluded that individuals with higher organizational commitment were less affected by work stress and had the lower intention of leaving work. Hence, employees who felt the support from their organization were more likely to have a higher organizational commitment that led to higher levels of job satisfaction. Although being committed solely to the organization may be a good thing in the views of the employer, having work-family balance may actually be beneficial for both employer and the employee.

## **Familial Factors**

The familial factor is a vital part of job satisfaction study. Although not often introduced in the Criminal Justice field, other private sector research such as nursing, hospitality business, management and more have studied the relationship between the family to work and its influence on job satisfaction. Especially for Korean culture,

due to its roots from Confucianism, Koreans believe the family lives are as important as work lives (Choi & Kim, 2012). Based on Confucianism, Koreans view that when the home environment is harmonious, all else in life goes well, including work (Kang, 2004). As such, for Korean employers, private or public sector, familial harmony is very important as a culture.

Evidence of how important family harmony is to Korean society is provided. Based on the Confucian beliefs, Korean employers use a variety of family-friendly benefits to appease the workers to raise job satisfaction. For example, Korean workers are entitled to have 15-25 paid leaves based on their tenure (Labor Standard Act); employees can take sick leaves even to take care of their family (Equal Employment and Work-Life Balance Protection Act); parents can take childcare leaves up to one year; paid maternity leave is provided for the mother for 90 days who is giving birth; providing subsidies for the childcare cost; subsidized family event costs are provided for marriage, parents' 60<sup>th</sup> and 70<sup>th</sup> birthdays, or when their family member pass away; providing housing subsidies to help home ownership and more (Kang, 2013). These family-friendly benefits show how much emphasis the Korean culture has on family harmony. There are some family-friendly benefits aimed to increase family harmony but these benefits may not be enough to positively impact the job satisfaction of officers.

Studies outside of the field of criminal justice have applied various types of familial factors to job satisfaction. For example, based on the scarcity perspective of family-work relationship, which assumes each individual has a limited amount of time and energy to spend, individuals ultimately undergo a conflict of allocating time to family or work (Lee, Chang & Kim, 2011). Similarly, role theory also assumes that work and family roles are the product of expectations of others and what is assumed or perceived to be the right behavior for a particular position; and both work and family domains both require roles where individuals are expected to upkeep those expectations, if not a conflict occurs (Khan, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Fathers or mothers are expected to behave in a certain way at home and at work. If this expectation is not met, a conflict of role occurs. This in turn may have a negative effect on either family, work or both.

Numerous studies have concluded that family to work conflict have a negative impact on job satisfaction, family satisfaction, and well-being (Karatepe & Sokmen, 2006; Beutell, 2010). That is, if a person enriches family life, he or she will also perform better at work (Karatepe & Kilic, 2009; Choi & Kim, 2012). Then, looking at the opposite spectrum of this idea, if a person's family harmony is disrupted, it also may have an adverse impact on work satisfaction. Hence, if an officer has a

harmonious home, he or she may have higher levels of job satisfaction. On the other hand, if an officer has a disruptive family, he or she may have lower levels of job satisfaction due to lack of support by family.

Family components are important for satisfaction in general since they are the primary source of support. When workers have social support and emotional support by their family member, it helps reduce job-related stress, and strains such as job dissatisfaction and workload dissatisfaction (Kwok, Chen & Wong, 2015). However, other research has noted that family supportive supervision may need to be accompanied by the perception of organizational support towards family to significantly influence job satisfaction. For example, when employees perceive that their work environment is family supportive, it has been researched that they experience less family-work conflict (Allen, 2001). Furthermore, when workers feel more comfortable devoting their time and energy to their family without any negative career consequences, individuals will devote more time to the job due to their raised job commitment. Hence, family support and the family itself is an important factor that may influence the levels of officer job satisfaction.

Collectively, the relationships between familial factors and job satisfaction have not been consistent (Zhao, Qu & Ghiselli, 2011). Even though empirical evidence of family harmony (familial factor) and job satisfaction failed to achieve univocal conclusion, it may be a pivotal stepping-stone to enrich the knowledge in criminal justice research. Furthermore, a limited number of research that focuses on familial factors and its impact on the job satisfaction of police exist (Howard, Donofrio & Boles, 2004; Rathi & Barath, 2013; Singh & Nayak, 2015). Not only that, the limited number of criminal justice studies that does examine familial factors, used samples from Indian officers (Rathi & Barath, 2013; Singh & Nayak, 2015) and American officers (Howard, Donofrio & Boles, 2004). Howard et al. (2004) concluded that work-family conflict had a negative impact on the officers' job satisfaction while family-work conflict did not show any significance. Singh & Nayak (2015) concluded that stress mediated the relationship between work-family conflict and satisfaction. However, they did not examine family-work conflict and its impact on job satisfaction. Finally, Rathi & Barath (2013) concluded that both work-family conflict and family-work conflict had a negative impact on police job satisfaction. Furthermore, they added that social support was a major moderator of the relationship between work-family conflict and family-work conflict with family satisfaction.

## Current Study

Overall, the concept of a familial factor has been widely used in other fields than criminal justice. However, the limited studies that used familial factors within the realm of police job satisfaction do not have coinciding results. Hence, the current study focuses on the impact of familial factors on job satisfaction. Accordingly, the current study examines the Demographic, Work-Related factors of the Korean Coast Guard police officer's job satisfaction as the basis of the study. Most importantly, we aim to examine whether family harmony (familial factor) factor has any impact on the job satisfaction of the Korean Coast Guard police officers. Thus, the current study hypothesizes:

- 1) Officers with satisfied work condition, organizational cohesion, and work pride will have higher levels of job satisfaction.
- 2) Officers with cynical views of their work unsafety will have lower levels of satisfaction
- 3) Officers with harmonious family (better relationship with family members and higher levels of communication) will have higher levels of satisfaction
- 4) Officers who perceive higher levels of family work conflict will have lower levels of job satisfaction

## METHODS

### Data & Sampling

Data for this study was drawn from the survey for “The welfare Status and Strengthening Strategies of Korea National Coast Guards”, directed and conducted by Lee and his colleagues in 2013. Since all Coast Guard police officers, 10,646 as of 2013, 8,463 officers were asked to participate in the survey, except for 2,183 combat police officers who were serving their mandatory military service obligations. Of those 8,463 regular coast guard officers, 4,850 officers (57.3%) were actually participated in and answered to this Internet-based survey. Even though non-randomized, it is believed that both big sample size (4,850) and participation rate (57.3%) would well represent the total population (N=3,676). From this sample, the current study excluded any data with missing values. Thus, the final sample used in this study was (N= 2,405).

**Table 1. Description of Study Variables**

Variable	Description
<b><i>Dependent</i></b>	
Job Satisfaction	An additive index of three items. Measured on a five-point Likert scale: one being Strongly disagree and five being Strongly agree.
<b><i>Demographic</i></b>	
Gender	Measured by: Male=0 and Female=1
Age	Measured by how old respondents are (e.g. 30 years old=30)
Rank	Measured by a scale: 1 to 8 in ascending order: 1= lowest rank and 8 highest rank.
Education	Measured by: 1 to 4 ascending scale. 1= Less than high school, 2= Community college, 3= College, 4= Graduate degree.
<b><i>Work-Related</i></b>	
Work Condition	An additive index of four items. Measured on a five-point Likert scale: 1 being Very Unsatisfied and 5 being Very Satisfied.
Work Unsafety	An additive index of two items. Measured on five points Likert scale: 1 being Strongly agree and five being Strongly disagree.
Organizational Cohesion	An additive index of three items. Measured on five points Likert scale: one being Strongly disagree and 5 Strongly agree.
Work Pride	An additive index of three items. Measured on a five-point Likert Scale: one being Strongly disagreed and 5 Strongly agreeing.
<b><i>Family Harmony</i></b>	
Family Relation	An additive index of five items. Measured on a five-point Likert scale: 1 being Very Unsatisfied and 5 being Very Satisfied.
Family Conversation	An additive index of two items. Measured on a five-point Likert scale: 1= No conversation, 2= Less than 30 minutes, 3= 30min~1hour, 4= 1~2 hours, 5= More than 2 hours.
Family-Work Conflict	An additive index of four items. Measured on a five-point Likert scale: 1 being Strongly agree and 5 Strongly disagree.

## Measures of Variables

For all measures in the study, the measures are adapted from “The welfare Status and Strengthening Strategies of Korea National Coast Guards”, directed and conducted by Lee and his colleagues in 2013. After assessing the factor loading scores and the alpha levels, factor loadings all above .60 and alpha levels over 70, the current study utilized the scales that are described below. As provided above in Table 1, the majority of the scales were an additive index that used Likert scales from 1 to

5. Furthermore, when individuals encountered questions they cannot answer, such as questions about significant other or children, they skipped through the questions. Additionally, all measurements, excluding work unsafety and family work conflict, were re-coded so that lower scores represented negative attitudes and higher scores represented positive attitudes. Furthermore, all measurements included in the study were assessed with principal component analysis (PCA) to see the clustering of the measurement items. Results of the factor loadings and alpha coefficients are provided below in Table 2.

### **General Job Satisfaction Scale**

Three items measured the outcome variable (DV), Overall Job Satisfaction,: 1) I am committed to my job beyond what it asks of me, 2) I am proud of my job, and 3) Even if I get an offer far better than my current job, I plan on staying. The reliability analysis showed the composite measure of job satisfaction of the Korean Coast Guards had a Cronbach's alpha level of ( $\alpha = .78$ ). Rather than using numerous items to artificially inflate the alpha scores (Cortina, 1993), the current study concluded three items measure with higher average inter-item correlation score was better for the job satisfaction scale. Details of the outcome variable will be provided below in Table 2.

### **Work-related Factors of Job Satisfaction Measures**

Work-Related factors were measured in similar ways. First, Work Condition was an additive scale of four items. 1) Work content satisfaction, 2) Department assignment satisfaction, 3) Department relocation satisfaction, and 4) Working hours satisfaction with a Cronbach's alpha ( $\alpha = .76$ ). Second, *Work Unsafety* was an additive index of two items: 1) possibility of physical harm at work, and 2) My work is more dangerous compared to the majority of other normal work. Two items had a high level of Cronbach's alpha ( $\alpha = .93$ ). Third, Organizational Cohesion was measured with three items: 1) Organization is like an extension of my family, 2) Co-workers share things with one another, and 3) Workers have high organizational commitment. These three items of organizational cohesion had a Cronbach's alpha level ( $\alpha = .84$ ). Fourth, Work Pride was measured with three items: 1) I have very much interest in my job, 2) I am proud that my job helps others, and 3) I am proud that my job is beneficial to the society. These three items had a Cronbach's alpha level ( $\alpha = .75$ ). More details regarding the Work-Related factors will be provided below in Table 2.

## Familial Factors of Job Satisfaction Measures

For the concept of Family harmony, four factors were assessed: 1) family relationship, 2) level of family conversations, and 3) Family work conflict. The goal of these constructs was to assess how harmonious an officers' family was. First, Family Relationship consisted of five items: 1) relationship with significant other, 2) relationship with children, 3) relationship with parents, 4) relationship with significant others' parents, and 5) Overall family relationship. Items showed high Cronbach's alpha level ( $\alpha = .90$ ). The five-point Likert scale measured whether individuals were satisfied with the relationship of their family. Hence, the scale consisted of 1) Very unsatisfied, 2) Unsatisfied, 3) Neutral, 4) Satisfied, and 5) Very satisfied.

Second, two items measured Family Conversation levels: 1) time spent conversing with significant other, and 2) time spent conversing with children. Two items had high Cronbach's alpha level ( $\alpha = .86$ ). The answer options were 1) No conversation a week, 2) Less than 30 minutes a week, 3) 30 minutes to 1 hour a week, 4) one to two hours a week, and 5) more than 2 hours a week. Third, *Family Work Conflict* was measured with four items: 1) Too much work hours impacts family lifestyle, 2) Inconsistent work hours impacts family lifestyle, 3) Thought about leaving work due to lack of child education time because of too much work, and 4) Had debates or verbal fights with significant other due to work. The Cronbach's alpha level was moderately high ( $\alpha = .79$ ). Details of the Family harmony factors are provided below in Table 2.

## Demographic factors of Job Satisfaction

For the Demographic factors of job satisfaction, the usual suspects: gender, age, rank, and education level, were included. The current study excluded race since Korea is a very homogenous country in terms of race/ethnicity. Gender was measured 1=male and 2=female. Age was measured numerically (21 years old, 40 years old, etc.). Rank was measured with a scale: 1 to 8 in ascending order: 1 being the lowest rank and 8 being the highest rank. Education was measured by 1 to 4 ascending scale. 1= Less than high school, 2= Community college, 3= College, 4= Graduate degree.

# RESULTS

## Descriptive Statistics & Correlation

The descriptive statistics in Table 2 provides a general idea of the data and the variables that were examined in the current study. This information includes the minimum and maximum of the variables, the mean score and the standard deviation of the variables the current study examines. As noted above, the current data excluded all missing values which resulted in the total count of (N= 2,405). In Table 3, bivariate correlation among all variables are provided. No alarmingly high correlation was found.

**Table 2. Variable Descriptive Statistics (N= 2,405)**

Variable	N	Min	Max	Mean	Std. D
<b><i>Dependent</i></b>					
Job Satisfaction (3 items; $\alpha=.78$ )	3356	3	15	9.73	2.31
<b><i>Demographic Variables</i></b>					
Gender	3145	0	1	.03	0.17
Age	2909	26	60	44.27	8.85
Rank	3176	1	8	3.96	1.30
Education	3143	1	4	2.40	0.79
<b><i>Work-Related Scales</i></b>					
Work Condition Satisfaction (4 items; $\alpha=.76$ )	3311	4	20	11.95	2.69
Work Unsafety (2 items; $\alpha=.93$ )	3370	2	10	7.51	1.96
Organizational Cohesion (3 items; $\alpha=.84$ )	3380	3	15	8.39	2.28
Work Pride (3 items; $\alpha=.75$ )	3350	3	15	10.24	1.95
<b><i>Family Harmony Scales</i></b>					
Family Relationship (5 items; $\alpha=.90$ )	3360	5	25	21.22	3.65
Family Conversation (2 items; $\alpha=.86$ )	3264	2	10	5.49	1.72
Family-Work Conflict (4 items; $\alpha=.79$ )	3357	4	20	13.74	3.18

**Table 3. Bivariate Correlation Matrix (N=2,405)**

	1	2	3	4	5	6	7	8	9	10	11	12
1. Job Satisfaction	1											
2. Work Condition	.41**	1										
3. Work Unsafety	.02	.07**	1									
4. Org Cohesion	.53**	.36**	.07**	1								
5. Work Pride	.72**	.39**	.22**	.56**	1							
6. Fam Relation	-.12**	-.21**	.22**	-.15**	-.21**	1						
7. Fam Converse	.11**	.02	-.33**	-.04*	.05**	-.35**	1					
8. FamWorkCon	-.38**	-.41**	.15**	-.35**	-.41**	.37**	-.19**	1				
9. Gender	-.04*	-.01	-.09**	-.03	-.03	.08**	.02	.01	1			
10. Age	.23**	.20**	.04*	.33**	.25**	-.11**	-.35**	-.33**	-.14**	1		
11. Rank	.09**	.19**	.03	.19**	.19**	-.22**	-.24**	-.27**	-.16*	.72**	1	
12. Edu Level	-.14**	-.13**	-.02	-.13**	-.17**	.11**	.12**	.36**	.02	-.56**	-.39**	1

\* p<.05, \*\*p<.01, \*\*\*p<.001

## OLS Regression

Table 4 shows the results of three separate models of OLS regression estimation. The purpose of the three models is to show the change of impact each factor have after being controlled. Thus, Model 1 only includes the demographic factors and its impact on job satisfaction. Model 2 includes both demographic factors and work-related factors and its impact on job satisfaction. Model 3 provides the result of the full model with all demographics, work-related, and family harmony factors and its impact on job satisfaction. Furthermore, for all three models, there were no issues with collinearity. The VIF values of the independent variables all ranged from 1.06 to 3.41, which are well below the conservative threshold of 5.0 (Johnson, 2012).

Table 4. Ordinary Least Squares Regression on Officer Job Satisfaction (N=2405)

	Model 1				Model 2				Model 3			
	β	p	Coef (SE)	VIF	β	p	Coef (SE)	VIF	β	p	Coef (SE)	VIF
<b>Demographic</b>												
Gender	.02	.471	.25(.30)	1.03	.03	.372	-.41(.20)	1.04	-.04	.841	-.55(.19)	1.05
Age	.16	.000	.04(.01)	3.04	.05	.002	.02(.01)	3.15	.04	.024	.01(.01)	3.58
Rank	-.01	.595	-.03(.05)	2.36	-.11	.001	-.20(.04)	2.38	-.05	.478	-.09(.04)	2.54
Education	-.14	.000	-.44(.07)	1.55	-.07	.000	-.20(.05)	1.58	-.05	.023	-.16(.05)	1.67
<b>Work-Related</b>												
Work Cond					.17	.000	.14(.01)	1.73	.15	.006	.13(.01)	2.06
Work Unsafe					-.13	.000	-.16(.02)	1.16	-.12	.000	-.14(.02)	2.03
Org Cohesion					.06	.000	.07(.02)	2.00	.08	.000	.09(.02)	1.97
Work Pride					.64	.000	.77(.02)	1.75	.63	.000	.75(.02)	1.32
<b>Family Var</b>												
Fam Relation									.19	.000	.12(.01)	1.51
Fam Converse									.10	.000	.13(.02)	1.75
Family-Work									-.08	.000	-.06(.01)	2.11
<b>Conflict</b>												
f-Value		.000				.000				.000		
R2		.07				.60				.62		
Adjusted-R2		.06				.52				.54		

\* p<.05, \*\*p<.01, \*\*\*p<.001

As provided in Table 4, Model 1, with only the demographic factors, explained 7% of the variance observed (*R-squared* = .07). Results of model 1 indicate that Age and Education level measure was a significant indicator of Coastguard police officers’ job satisfaction. Officers with more age tended to be satisfied with their job and officers with higher levels of education level were less satisfied with their job. Overall results of Model 1 seems to agree with prior research and their conclusions in regards to the demographic factors and its impact on job satisfaction.

## **Work-related Factors and Its Impact on Job Satisfaction**

Results of Model 2 in Table 4 shows the impact of demographics and work-related factors on job satisfaction. To increase model strength, work-related factors were added. Model 2 provides the OLS result of demographic factors and work-related factors. In model 2, the observed variance increased to 59% ( $R\text{-Square} = .60$ ). In model 2, demographic factors: Age ( $\beta = .05$ ), Rank ( $\beta = -.11$ ), and Education level ( $\beta = -.07$ ) all showed statistically significant relationship with Job satisfaction except gender. Rank and Education level had a negative impact on the level of job satisfaction.

The important part of model 2 was the work-related factors. With model 2 explaining 60% of the observed variance, work condition ( $\beta = .17$ ), work unsafety ( $\beta = -.13$ ), organizational cohesion ( $\beta = .06$ ), and work pride ( $\beta = .64$ ) all had significant impact on the coast guard's job satisfaction. Officers who were satisfied with their working conditions were more likely to be satisfied with their job. Officers who showed more concern for their work unsafety had lower levels of job satisfaction. Officers with higher organizational cohesion were more satisfied with their job. The strongest predictor of all, officers who had higher levels of work pride had higher levels of job satisfaction. Supporting hypothesis 1, officers with higher levels of work condition, work pride, and organizational cohesion levels will have higher levels of job satisfaction; and hypothesis 2, officers with more concern for their work unsafety will have lower levels of job satisfaction.

## **Family Harmony Factors and Its Impact on Job Satisfaction**

Finally, to investigate our main hypothesis of whether the harmonious family has any influence on the officers' job satisfaction, Model 3 provides results of all three facets of demographics, work-related and family harmony factors in one model to improve model strength. Model 3 explained 62% of the observed variance ( $R\text{-squared} = .62$ ) and results seem to be in anticipated directions. However it is important to note that the variance explained only increased by 2% from model 2 to model 3. Which may also mean that familial factors may be statistically predicting job satisfaction, it may not be strong predictor of job satisfaction due to its small coefficients and small variance explained.

OLS results of model 3 were similar to model 2 in terms of the demographic factors and work-related factors. Similar to model 2, age ( $\beta = .04$ ), and education

( $\beta = -.05$ ) only were predictors of job satisfaction. In terms of work-related factors in Model 3, all four facets: work condition ( $\beta = .15$ ), work unsafety ( $\beta = -.12$ ), organizational cohesion ( $\beta = .08$ ) and work pride ( $\beta = .63$ ) had statistically significant impact on officer's job satisfaction. In terms of Familial factors in Model 3, as predicted in our hypothesis 3 and 4, Family relationship ( $\beta = .19$ ), Family conversation ( $\beta = .10$ ), and Family-Work conflict ( $\beta = -.08$ ) had statistical significance. As we hypothesized, officers with a good family relationship and officers with more conversations among family members were more likely to have higher job satisfaction. Also as hypothesized (H4), officers who had higher levels of family-work conflict had lower levels of job satisfaction. Here, it is important to note that family-work conflict was negatively coded. Thus, it explains the negative coefficient of family-work conflict predictor.

## DISCUSSION

### Summary of Findings

The primary aim of the current study was to examine the job satisfaction of Korean Coast Guards. Specifically, whether or not familial factors (i.e. having a harmonious family) have any influence on the levels of job satisfaction. In doing so, this study contributes to research in this area by examining the importance of family harmony on Korean Coastguard police officer job satisfaction. The addition of family harmony to the research of officer job satisfaction has not been assessed yet. Thus, the current study augments the literature of officer job satisfaction by examining the gap (i.e., familial factors). Therefore, the discussion of the study results provided above is needed

As anticipated in our hypotheses, work condition, organizational cohesion, and work pride all had a statistically significant impact on our dependent measure job satisfaction. Concurrent with the literature and its emphasis on the importance of work-related factors in job satisfaction challenge (Zhao et al. 1999; Hwang, 2008; Miller et al. 2009; Nalla et al. 2011; Johnson, 2012; Nalla & Kang, 2012), the current study also revealed that officers who were more satisfied with their working conditions had higher levels of job satisfaction. The result for organizational cohesion or commitment also coincided with the literature as well (Meyer et al.,

1989; Lambert, 2003; Schmidt, 2006; Crow, Lee & Joo, 2012). Concurrent with the literature and support to our hypotheses, organizational cohesion variable also had statistical significance with the anticipated direction where officers more cohesive to the organization had higher levels of job satisfaction. Supportive to our hypotheses, officers who had higher levels of pride in their work had higher levels of job satisfaction, this was concurrent with the literature where officers who felt more pride in their job or organization had higher levels of job satisfaction (Griffin, Hogan, Lambert, Tucker-Gail, & Baker, 2010). Finally, similar to the literature (Coman & Evans, 1988, 1991; Duckworth, 1987), and as our hypothesis predicted, work unsafety variable also concurred with the literature. That is, when officers felt more concern for their workplace unsafety, they reported less job satisfaction.

The OLS results from our familial factors suggest that officers who generally had good relationships with their family members were more likely to have higher levels of job satisfaction. Similarly, officers who conversed more with their family member tended to have higher levels of job satisfaction. These two facets of family harmony could be interpreted as support from family. A positive relationship with family members and bidirectional communication could likely lead to family support for the officers. Hence, this positive support system may have a positive impact on the officers' job satisfaction levels. Contrastingly, when officers felt that their work was interfering with their family well-being, they had lower levels of job satisfaction.

The main focus of the current study, familial factors of officer job satisfaction are discussed. As provided above in the result section, we found three factors that were statistically significant. First, officers with good family relationship yielded higher levels of job satisfaction. Second, officers who had more conversation with their family members had higher levels of job satisfaction. Lastly, officers who felt more family-work conflict had lower levels of job satisfaction. These findings answer our main hypotheses of this study. Officers with more harmonious family, good relationship with members of the family and communicating with them, had higher levels of job satisfaction. We may cautiously present a possible linkage between officer job satisfaction and the impact of the supportive family. Having a positive family relationship with its members may indicate supportive family which may lead to higher levels of job satisfaction. Contrastingly, officers that had more family-work conflict yielded lower levels of job satisfaction. Officers with family work conflict may have lower levels of job satisfaction due to the lack of family support that stems from a positive relationship with its family members.

## **Limitations, Future Research**

The present study has examined the role of familial factors and its impact on the Korean Coast Guard's job satisfaction. Although three scales were used to measure the construct of family harmony, general family relationship, family conversation, and family work conflict, numerous other factors may also measure family harmony. That is, we cannot be definitive in terms of claiming that our three scales accurately measure family harmony construct with 100% confidence. Hence, future research may help to solidify the construct of family harmony by assessing the construct validity via concurrent, convergent or divergent validity testing. Additionally, generalizability may be a concern, since the current study uses data that are not randomly sampled. If possible, future research should attempt to use random sampling to enhance the generalizability of the study. Furthermore, the current study only assessed three items to measure the outcome variable, job satisfaction. Since there can be multiple methods of measuring the construct of job satisfaction, we cannot adamantly state that our measure of job satisfaction is the only and best way of measuring it. Additionally, it is advised that future research may inspect the factors of family harmony and its impact on job satisfaction more exhaustively. As aforementioned, the field of criminal justice has yet to explore the factors of family harmony and its impact on job satisfaction of law enforcement officers. However, with our initial assessment, there seems more to be explored in terms of how and what factors of family harmony can influence law enforcement officer's job satisfaction.

## **Policy Implications**

Although employers may not be able to directly make officers' family happy, they may be able to indirectly appease the family through family-friendly policies. In doing so, it may increase officers' job satisfaction regardless of Western or Asian culture since the family is important to all types of culture and people. Hence, family harmony factor may be a universal factor that may influence job satisfaction. Based on the findings of this study, policies should focus on providing supportive programs to indirectly influence the officers' family. For example, free family counseling services to aid the relationships among family members such as couple's therapy. Other policies such as time providing safety measures, for those officers who are concerned with their occupational hazard, can lead to more satisfied Coast Guard officers.

As such, policies that boost's the officers' confidence of their work safety such as improved safety equipment, medical (both mental and physical) support programs, and internal or external funds that promises to take care of one's family in the event of the officers' death on duty.

More policies that may reduce the work family conflict may be restricting work hours to only 52 hours maximum per week would improve family-work conflict. When officers have to spend more time at work rather than at home, it does put a burden on the officer's relationship with the family members. Overall, no policies can directly improve the family relationship of officers. However, it may indirectly improve the relationship among the family members of the officers. For example, to ensure more time with the family, a department may have policies that can help officers to spend more family time such as monthly family gathering events to help officers to spend more time with their family. Department can provide counseling to help officers figure out how they can communicate more and better with their family members. In doing so, the department would hope to increase officers' job satisfaction by influencing the level of communication of the officer and their family members to solidify the family support system an officer need in order to increase job satisfaction levels. The main goal of a policy should focus on trying to make officers happier in their household. This may be a challenging objective since happiness is a vague construct but may deliver more satisfied officers with higher work productivity and reduce burnout or job turnover rates.

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