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POLY-VICTIMIZATION: A BROAD ASSESSMENT OF CHILDHOOD VICTIMIZATION
AND ITS IMPLICATIONS FOR JUVENILE JUSTICE AND CHILD WELL-BEING

BY

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DISSERTATION

Submitted to the University of New Hampshire
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the Requirements for the Degree of

Doctor in Philosophy
in
Sociology

September 2018

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On July 9, 2018

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DEDICATION

For my children who patiently and lovingly learned to sacrifice their family time to allow me to focus on bringing this project to completion. I pray that you can someday look back on this and realize that it was worth it.

ACKNOWLEDGEMENTS

First and foremost, I would like to express my gratitude to God the father, God the son, and God the holy spirit for guiding, sustaining, and providing me with the resources needed to commence and complete the “race” this dissertation represents in my life. I am eternally grateful for the support system that I have been blessed with both in my professional and personal lives.

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It was good for me that I was afflicted (Psalms 119:71) for I know that all things work together for the good of those who love the Lord and have been called according to His purpose (Romans 8:28). A multitude of wise counsel has sustained and established me (Proverbs 15:22). Thank you God of all grace for restoring, strengthening and establishing me (1 Peter 5:10). I have run with endurance the race set before me (Hebrews 12:1-3) and now I’m ready for the next chapter in my life for I know that eyes haven’t seen, and ears haven’t heard the things which God has prepared for those who love Him (1 Corinthians 2:9).

Thank you, God, for your love, mercy and grace. Looking forward to seeing what you have in store for me next.

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ABSTRACT

POLY-VICTIMIZATION: A BROAD ASSESSMENT OF CHILDHOOD VICTIMIZATION AND ITS IMPLICATIONS FOR JUVENILE JUSTICE AND CHILD WELL-BEING

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University of New Hampshire

Objective: The objective of this dissertation is twofold. The first objective is to summarize the literature on poly-victimization (PV) with a focus on what relationships have been tested and how poly-victimization has been operationalized in the field. The second objective is to replicate and expand the literature by empirically testing the effect of poly-victimization on delinquency.

Design, Data, and Participants. This dissertation employs a mixed method approach made up of a systematic literature review and secondary data analysis. The systematic literature review summarizes 59 poly-victimization articles published between 2007 and 2017 that contain the terms “poly-victim” or “poly-victimization” in its title and/or abstract. The secondary data analysis is based on a nationally representative sample of 6,364 10 to 17-year-olds who self-reported their lifetime victimization experiences and their past-year delinquency involvement. The pooled dataset used in this dissertation is based on the aggregation of three repeated assessments collected in 3-year intervals between 2008 and 2014, the National Survey of Children’s Exposure to Violence (NatSCEV). NatSCEV is a cross-sectional, U.S. based, national telephone survey conducted in English and Spanish.

Broader Impacts. This dissertation seeks to provide evidence-based knowledge that will inform both the imminent research agenda and the practical and clinical strategies designed to respond to poly-victimization. The systematic review will contribute to these objectives by identifying the gaps that exist in the poly-victimization literature and by summarizing the measurement issues surrounding its operationalization. The secondary data analysis will contribute to this by providing practitioners and clinicians the evidence needed to develop and implement the policies, practices, and strategies that can positively affect the dynamic relationship that exists between violence exposure and violence perpetration.

Results and Conclusion-Literature Review. Although much of the work has focused on evaluating the effect of PV on a host of adverse mental health outcomes, some work has been done to advance our understanding of adverse behavioral and social outcomes. The systematic

literature review shows that most studies have focused on quantitatively evaluating the direct effects of PV using cross-sectional designs, adolescent respondents, and non-probability samples. The field can benefit from designing qualitative and/or mixed method studies that can complement each other and supplement what we already know about PV. Efforts should also be made to incorporate mediating and moderating factors into our research, thereby starting to explore more complex relationships. When quantitative efforts are pursued, focusing on obtaining probability samples and incorporating longitudinal designs will be most helpful given the current state of knowledge. Lastly, having multiple respondents can help triangulate information and address the ongoing debate on proxy interviews.

Results and Conclusion-Secondary Data Analysis. Ample evidence was found to conclude that poly-victimization predicts a variety of deviant, delinquent, and rule breaking behaviors. PV's predicted 13 different types of delinquent behaviors. It was also found to be a stronger predictor of any delinquency, as compared to 10 other categories of victimization, namely property crime, physical assault, child maltreatment, sexual victimization, kidnapping, bullying victimization, online victimization and exposure to family, school, and community violence. The policy and practice implications of these findings are extensively discussed.

PART I

Chapter 1: Background, Research Questions, and Justification

Childhood exposure to multiple types of victimization is unfortunately more common than we realize. Approximately two-thirds of children report exposure to multiple types of victimizations in the past year, both in the US (Finkelhor, Turner, Hamby, & Ormrod, 2011) and abroad (L. Soler, Segura, Kirchner, & Forns, 2013). Mean lifetime rates are even more alarming. Researchers evaluating childhood lifetime victimization have reported average rates that range from four (Finkelhor, Ormrod, & Turner, 2009b) to nine (Elliott, Alexander, Pierce, Aspelmeier, & Richmond, 2009) different types of victimizations, with some reporting as many as 26 different kinds of exposures. These numbers are disturbing for several reasons: First, an average lifetime victimization rate of nine does not mean that about nine victimizing events occurred over the course of a child's lifetime, but rather that they have been victimized in nine different ways. Children's victimization experiences vary, but for some it seems to be inescapable. These children go home and are maltreated; go to school and are bullied; step into their neighborhood and are exposed to drugs, riots and sometimes lethal violence. Each of these nine types of victimizations could, and often do, occur more than once. Second, in the context of this study, "lifetime" is relative to the age of the respondent, in this case a 14, 12, or 10-year-old child. The victimizations are not spread out over many years, but rather condensed into a short period of time. Lastly, it's important to recognize that the rates referenced above are not limited to the victimization experience of children known to child protective services and the juvenile justice system, but rather are based on the reports of the average US child, which we expect to be lower than clinical samples.

Definitional Issues

The rates just elaborated on, however, cannot be fully understood if we are not clear on the term and qualifiers we use to describe victimization. One of the most important things a researcher must do is ensure that the consumer of his/her scholarly work is accurately capturing the conceptual argument he/she is making. This cannot be achieved without the establishment of clear definitions. For purposes of this dissertation, it's important that we differentiate between *repeat*, *chronic*, *multiple* and *poly*-victims. A child who is physically assaulted multiple times at school is considered a *repeat*-victim of physical assault. This victimization class only requires that one type of victimization is experienced more than one time. The focus of this category is therefore *frequency*. A *chronic*-victim is one whose victimization exposure continues over some specified period of time. A child whose emotional and physical needs are ignored by his/her caretakers starting at age six and continuing through age 10 is considered a chronic-victim of neglect. The focus of this victimization class is therefore *duration*. By definition chronic-victims would also be considered repeat-victims. Not all repeat victims, however, would be considered chronic as a child could be repeatedly assaulted within a relatively short period of time (e.g. a day). Going back to the child who is physically assaulted at school multiple times, if his/her assault is sustained over time, say from 3rd to 6th grade, then he would be considered a chronic victim as well. A child who is both physically assaulted at school and neglected at home is classified as enduring more than one type of victimizations and therefore a *multiple*-victim. Here the focus is on *forms* of victimization, which is a very different perspective because it doesn't emphasize the frequency and duration of the victimization experience. *Poly*-victims are arguably a sub-category of multiple-victims as they have endured multiple types of victimizations, but the emphasis is on identifying those who have experienced a disproportionate

number of different types. The focus when it comes to poly-victims is therefore the overall *diversity* of their violence and victimization exposure.

This dissertation focuses on poly-victims, the sub-group of children who report a disproportionate number of victimizations and for whom victimization has become a condition rather than an event. Although the concept of poly-victimization is relatively new, the field has long recognized that exposure to multiple forms of crime and abuse is a problem that merits attention. The co-occurrence of multiple types of victimization has been evaluated in a variety of ways. The literature is filled with examples of studies that reference the co-occurrence of domestic violence and child maltreatment (Edleson, 1999; Sousa et al., 2011), sexual and physical abuse (Chartier, Walker, & Naimark, 2010) and more currently, online and offline victimization (Mitchell, Finkelhor, Wolak, Ybarra, & Turner, 2011). Very few studies, however, have evaluated the broad range of victimizations that the poly-victimization perspective, and therefore this dissertation, addresses. The overall objective of this dissertation is to expand our understanding of children's victimization by contributing to a conversation started over 30 years ago. The practical objective is to pool together evidence that can be used to better inform policies and practices related to juvenile justice and child well-being.

Practical Concerns

This academic investigation specifically seeks to inform the following real-world issues and conditions.

Concern #1 Lack of consensus regarding the poly-victimization literature. The need for a paradigm shift in our investigation of childhood victimization and the need of taking into consideration the varied sources of childhood violence exposure are concerns that have been raised by multiple researchers. The poly-victimization perspective is a response to these

concerns. Poly-victimization re-emphasizes the idea that victimization exposure needs to be systematically, broadly, and holistically assessed in order to improve our understanding of multiply victimized children. The concept has grown substantially, some would argue exponentially, since its introduction in 2007, yet there has been no attempt to reconcile the literature on poly-victimization. This dissertation seeks to fill this gap in the literature by conducting a systematic review of poly-victimization articles published between 2007 and 2017.

Concern #2 Lack of Coordinated Services. Researchers and practitioners are progressively realizing that children are often victimized in a variety of ways and in a variety of settings, but our responses are still relatively fragmented. We often develop and conduct programs that focus exclusively on bullying, sexual assault, or child maltreatment. Unfortunately, this strategy only lets us respond to child victimization in the ways that we have organized our agencies and academic fields, rather than how it occurs in the lives of many children. We frequently end up with only partial interventions that are unlikely to adequately address the full spectrum of issues associated with these children. This dissertation will address this fragmentation by providing evidence for the fact that a sub-group of victimized children need a wide array of services that cannot be addressed by any single service agency. This in turn will drive home the need to encourage and facilitate collaborations among practitioners in the private sector, the child protection system, and juvenile justice agencies.

Concern #3 Lack of Consensus Regarding Which Children Are in Greater Need of Services. Policy-makers and practitioners generally agree that intervention efforts that focus on childhood violence exposure should prioritize the needs of children at the highest risk of adverse outcomes. However, there is no consensus regarding which experiences and conditions constitute the highest priority need. Developmental trauma literature argues that intervention efforts should

give greater emphasis to children who experience what are presumed to be the most serious forms of victimizations. The focus is often on those who report child maltreatment and child sexual abuse. Poly-victimization literature, on the other hand, argues that the focus should be on addressing the needs of children who experience the greatest number of types of victimizations. The emphasis is therefore on identifying and addressing the full spectrum of victimizations children are exposed to, irrespective of presumed seriousness.

As we have limited resources and are often faced with circumstances in which we must choose one intervention strategy over the other, it is important to empirically determine which children report the most adverse effects. The importance of using evidence to make such decisions, rather than personal judgment, cannot be overstated as it directly affects the lives of the vulnerable among us.

Research Questions

These issues and conditions will be addressed by answering the following research questions:

Research Question #1: How Has Poly-Victimization Been Studied? This research question is designed to address the need to reconcile the conceptual and methodological status of poly-victimization as an area of interest and research. The emphasis is on summarizing how poly-victimization has been operationalized and how it has been studied in order to inform the imminent research agenda (***Concern #1***)

Research Question #2: Is the effect of poly-victimization complex? Meaning, does it depend on the gender of the victimized child or the type of delinquent offense evaluated? This research question is designed to expand our understanding of poly-victimization and specifically its effect on delinquency. As it pertains to its practical application, this question is intended to

contribute to the conversation regarding the need for coordinated services for children who are multiply victimized and delinquency-involved (*Concern #2*)

Research Question #3: *Does poly-victimization predict increased levels of delinquency above and beyond any single form of childhood victimization?* The objective of this research question is to replicate and expand the literature that focuses on determining whether poly-victimization is the strongest predictor of adverse effects by focusing on delinquency as an understudied consequence of poly-victimization. The practical objective is to contribute to the conversation regarding the subset of youth who have the greatest need of service. If poly-victimization is the strongest predictor of delinquency, then the logical conclusion is to prioritize the needs of poly-victims given they are not just the most likely to be victimized, but also the most likely to victimize others. (*Concern #3*)

Rationale for the Study: Why Victimization?

Adverse Effects. Victimization in general has been associated with a variety of short and long-term adverse effects. Being victimized has been linked to anxiety, depression, PTSD (Cater, Andershed, & Andershed, 2014), a variety of psychiatric diagnoses (Carlos A. Cuevas, Finkelhor, Ormrod, & Turner, 2009), cognitive difficulties, social competence problems (D. D. DeHart & Moran, 2015), academic difficulties, aggressive/delinquent acts, sexualized behavior, substance use and emotional difficulties (Finkelhor & Hashima, 2001), to name a few.

Repeated Exposures as the Norm. Some have argued that being victimized repeatedly also seems to be the rule rather than the exception. This has been found to be the case among males and females in early childhood and adolescence (Cater et al., 2014).

Rationale for the Study: Why Childhood Victimization?

Prevalence. Childhood abuse and victimization are serious traumatic events that are more common than most people realize. High rates have been found in a variety of studies, conducted in different nations using a variety of designs, instruments and samples. The relative consistency of reported prevalence rates across national contexts (Bogolyubova, Skochilov, & Smykalo, 2015) indicates that childhood victimization is not just a localized problem, but a global, public health issue (Cyr, Clement, & Chamberland, 2014; Feng, Chang, Chang, Fetzer, & Wang, 2015) that incurs serious financial, interpersonal and social costs.

Childhood victimization rates are alarmingly high among clinical samples. The childhood victimization rate for an outpatient psychiatric sample in the United States was 69% (Ford, Wasser, & Connor, 2011). The rate was significantly higher (91%) among a clinical sample of 2 to 17-year-olds receiving child welfare services in Canada (Cyr et al., 2012) and adjudicated delinquent girls (98%) in the United States (D. DeHart, 2009). These high rates of exposure, however, are not limited to clinical samples. Studies using non-clinical samples have found victimization rates as high as 99% among university students in Russia (Bogolyubova et al., 2015) and 98% among female college students in the United States (Elliott et al., 2009). It's important to note that these very high prevalence rates are partly a function of broadly assessing victimization, which this dissertation and poly-victimization researchers advocate for.

Childhood victimization among nationally representative samples are somewhat less prevalent, but still concerning. The rate for a nationally representative sample of 12 to 17-year-olds in the United States was 66% (Andrews et al., 2015). Among a group of 15 to 17-year-olds in China, the childhood victimization rate was 47% (K. L. Chan, 2013) and among another set of 2 to 17-year-old, it was 71% (David Finkelhor, Richard K. Ormrod, & Heather A. Turner, 2007).

Severity of Exposure. Even when not directly targeted children are exposed to a variety of acute, pandemic, and extraordinary victimizations (Finkelhor, 2008). Many are chronically exposed (Cyr et al., 2012) and some are exposed to even the most serious offenses, like murder. Very serious exposures were not unheard of, with 1 in 20 exposed to a shooting, 1 in 200 exposed to a murder, and 1 in 50 exposed to a sexual assault in the past year (Finkelhor, Turner, Ormrod, & Hamby, 2009).

Greater Impact of Childhood Exposure. Some have argued that victimization during childhood merits special attention because the effects that stem from exposure at this point in the life course are more impactful. This is not without empirical support. A 2015, US based study that assessed 13 distinct trauma types using the first wave of the National Survey of Adolescents-Replication Study (NSA-R) found that trauma during childhood and adolescence is linked to negative mental health outcomes in adulthood, but that the effect seems to be stronger (more consistent and larger) for exposures that occurred during childhood, as compared to later in life (Andrews et al., 2015).

Rationale for the Study: Why Multiple Victimization?

Documented Co-Occurrence. Victimizations co-occur, and a large number of studies have documented it. This pattern of co-occurrence has been found to be the case among both children and adults. Children victimized at home are more likely to be bullied at school (Dussich & Maekoya, 2007), more likely to witness intimate partner violence (Casanueva, Martin, Runyan, Barth, & Bradley, 2008), and more likely to experience elder abuse (Pritchard, 2007). What's even more interesting is that this pattern of co-occurrence seems to be generalized. It is not limited to any specific type of victimization. The studies cited above all start out with family-based violence exposure, but there are examples in the literature that are not limited to,

nor do they stem from, family-based maltreatment. For example, a study of Latino youth in the US, found that youth who reported dating violence were more likely to also report non-partner perpetrated victimization. These findings were replicated and expanded using a nationally representative sample of youth in the US. This study reported that youth who experienced dating violence were more likely to report a wide-array of other victimizations including, but not limited to physical abuse by a caregiver, custodial interference, gang or group assault, bias-motivated attacks, sexual assault, and internet harassment, as compared to youth who did not report dating violence victimization (Sherry L. Hamby, Finkelhor, & Turner, 2012).

Cumulative and Graded Effect. Most studies focus on one or two types of victimizations, but those that do evaluate multiple victimizations at once have found a cumulative and sometimes a graded effect. As it pertains to cumulative effect, multiple victimizations have been associated with worse mental health outcomes overall (Arata, Langhinrichsen-Rohling, Bowers, & O'Brien, 2007; D. Finkelhor, R. K. Ormrod, & H. A. Turner, 2007a), worse psychological adjustment (Laia Soler, Kirchner, Paretila, & Forns, 2013), and higher rates of psychological distress at the clinical level (Carlos A. Cuevas, Sabina, & Picard, 2010). This cumulative effect has been found to be stronger than experiencing repeated episodes of the same kind (Laia Soler et al., 2013). Not only are the effects more harmful, but they have also been found to be less reversible (Appleyard, Egeland, van Dulmen, & Sroufe, 2005). As it pertains to the graded effect, some researchers have argued that the documented dose-response cannot be ignored (Feng et al., 2015).

Rationale for the Study: Why Poly-Victimization?

Most victimized. This dissertation focuses on poly-victimization for a variety of reasons: The first of which is that poly-victims, by definition, are the most victimized individuals in

society. Poly-victims make up a very important subgroup of youth because they seem to endure the highest burden of victimization (Finkelhor, Turner, et al., 2009). For these individuals, victimization becomes a condition rather than an event (Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011), as such it's a part of their day to day existence.

Prevalence Rate. Past-year poly-victimization rates for non-clinical samples ranges from 8% in a Canada-based study (Cyr et al., 2013) to 20% in a US-based study (Finkelhor, Ormrod, & Turner, 2009a). Studies using clinical samples, however, have reported much higher rates. A study of children receiving child welfare services found that more than half of the sample (54%) experienced at least four forms of victimizations in the past year (Cyr et al., 2012). A second study of children receiving outpatient treatment found approximately 1 in every 3 reported histories consistent with poly-victimization (Ford, Elhai, Connor, & Frueh, 2010).

Persistence. One of the very few longitudinal, poly-victimization studies conducted to date found that poly-victims were at a particularly high risk of persisting in that condition. In this study, poly-victims were operationalized as experiencing 4 or more different types of victimizations. Persistence of poly-victimization from year 1 to year 2 does not mean that poly-victims were more likely to be bullied, maltreated or threatened on the following year. Persistence of poly-victimization means that children and youth who were maltreated, threatened, assaulted, and sexually victimized are significantly more likely to be neglected, assaulted, bullied, and witness inter-parental assault the following year. This study found that approximately half (46%) of year 1 poly-victims were poly-victimized in year 2. Additionally, poly-victims in year 1 were 5.1 times more likely than non-poly-victims to meet criteria for poly-victimization again in year 2 (D. Finkelhor, R. K. Ormrod, & H. A. Turner, 2007c). These results suggest that highly victimized children are likely to remain highly victimized.

Adverse effects. Poly-victimization has been linked to higher rates of internalizing and externalizing adverse effects, as compared to children who report no victimization and children who have fewer victimization experiences than poly-victims. For example, a 2011 study evaluated the relationship between poly-victimization and the psycho-social well-being of a large sample of 6th and 9th grades in Finland and found that poly-victims reported the highest levels of psychosocial problems. Higher levels of psychological distress (Finkelhor, Ormrod, et al., 2009b); deliberate self-harm, suicidal ideation (E. K. L. Chan, 2013); psychological impairment (Alvarez-Lister, Pereda, Abad, Guilera, & GreVia, 2014), trauma-related mental health symptoms (Andrews et al., 2015; David Finkelhor et al., 2007), alcohol misuse, and anger expression (Armour & Sleath, 2014b) have also been found among poly-victims.

Adverse Childhood Experiences (ACE). Although there are clearly overlaps between poly-victimization and adverse childhood experiences, the focus is different. Poly-victimization is strictly focused on the comprehensive evaluation of different forms of inter-personal victimizations. Research using ACE as a measure of exposure to multiple forms of adversity is broader in scope because it incorporates victimization and other forms of non-victimizing, but potentially traumatizing events such as parental marital discord (M. Dong et al., 2004), adverse pregnancy experiences (Bernazzani & Bifulco, 2003) and growing up with parental alcohol abuse (Dube, et al, 2001). ACE studies; however, are limited in that their scale is composed of ten indicators, as compared to the 48 to 53 indicators of victimization utilized in NatSCEV, 44 of which are used in this dissertation. The breadth of items assessed in ACE studies might be an advantage, but the depth is not. Another distinction between ACE studies and this dissertation is that ACE attempts to collect data on childhood experiences by questioning adults of all ages. This

dissertation, however, uses data provided by youth about their childhood experiences. The shorter recall period is arguably an advantage over adult-recall studies.

Overall Approach

This dissertation employed a mixed method approach made up of a systematic literature review and secondary data analysis in order to provide evidence-based knowledge that will inform both the imminent research agenda and the practical and clinical strategies designed to respond to poly-victimization. The systematic literature review summarizes 59 poly-victimization articles published between 2007 and 2017 that contain the terms “poly-victim” or “poly-victimization” in its title and/or abstract. The main objective of this section was to summarize the measurement issues surrounding the operationalization of poly-victimization. The secondary data analysis is based on a nationally representative sample of 6,364 10 to 17-year-olds who self-reported their lifetime victimization experiences and their past-year delinquency involvement. The main objective of this section was to provide practitioners and clinicians the evidence needed to develop and implement the policies, practices, and strategies that can positively affect the dynamic relationship that exists between violence exposure and violence perpetration.

Chapter 2: Systematic Literature Review-Introduction and Methods

Background for the Review

Poly-victimization has been operationalized in two main ways, deductively and empirically. Studies that have deductively determined poly-victimization generally involve summing the number of victimization items endorsed across a broad array of victimization indicators. In this case, the higher the sum of endorsed items, the greater the victimization condition. The empirical determination of poly-victimization involves the use of latent class and cluster analyses to determine how a broad array of victimizations cluster together. Both methods will be analyzed and discussed in this chapter.

It's important to realize that even though the terms poly-victim and poly-victimization are often used interchangeably, they are in fact distinct from each other. Poly-victimization defines the *condition* of being highly victimized whereas poly-victim refers to the categorization of an individual who has been "highly victimized" as a function of a pre-determined cut-off score. This pre-determined cut-off score varies across articles, design, and reference period. Some studies determined that anybody whose number of victimizations is one standard deviation above the mean would be categorized as a poly-victim. In the past year, this was often operationalized as experiencing four or more different types of victimizations (K. L. Chan, 2013; Carlos A. Cuevas et al., 2009; Cyr et al., 2012) . When the reference period is childhood (often stated as lifetime), the cut off score based on one standard deviation above the mean using was commonly seven for studies using the JVQ to assess victimization history. Other studies have introduced an age-graded cut off score (Finkelhor, Ormrod, et al., 2009b). Yet others have identified poly-victims as the top 10% of any distribution of victimization scores (C. A. Cuevas, Sabina, & Bell,

2014; Turner, Finkelhor, & Ormrod, 2010). Some have used a combination of these cut off scores, where past year was based on four or more different types and lifetime was based on top 10% in each age group. Some are more specific and ensure that the cut-off score is based on the sum of different kinds of victimization experienced in separate incidents (Cyr et al., 2012). Others further differentiate among poly-victims and create different cut-off scores for “low poly-victims” (4 to 6) and high poly-victims (7 or more) (Finkelhor, Orrarod, & Turner, 2007). Others, however, have completely deviated from the *condition* that poly-victimization was intended to capture and use the poly-victimization concept to measure more than one type (Listwan, Daigle, Hartman, & Guastafarro, 2014). It’s important that we summarize and reconcile the state of knowledge on poly-victimization while taking into consideration the conceptualization and operationalization of the phenomenon.

Objectives of the Review

While the concerns and needs of multiply victimized youth have been in the forefront of researchers and policy-makers for decades, the concept of poly-victimization is relatively new, introduced by Finkelhor and colleagues in 2007. The focus of this chapter is to synthesize the ways in which poly-victimization has been studied and inform the research community of the gaps that need to be addressed to continue to move our understanding of childhood exposure to victimization forward. This project is timely as it serves as a 10-year review of the literature on poly-victimization. A 10-year review is necessary because despite the growing interest in the topic, no summary of the literature exists to date. This study seeks to fill that gap.

Literature Search

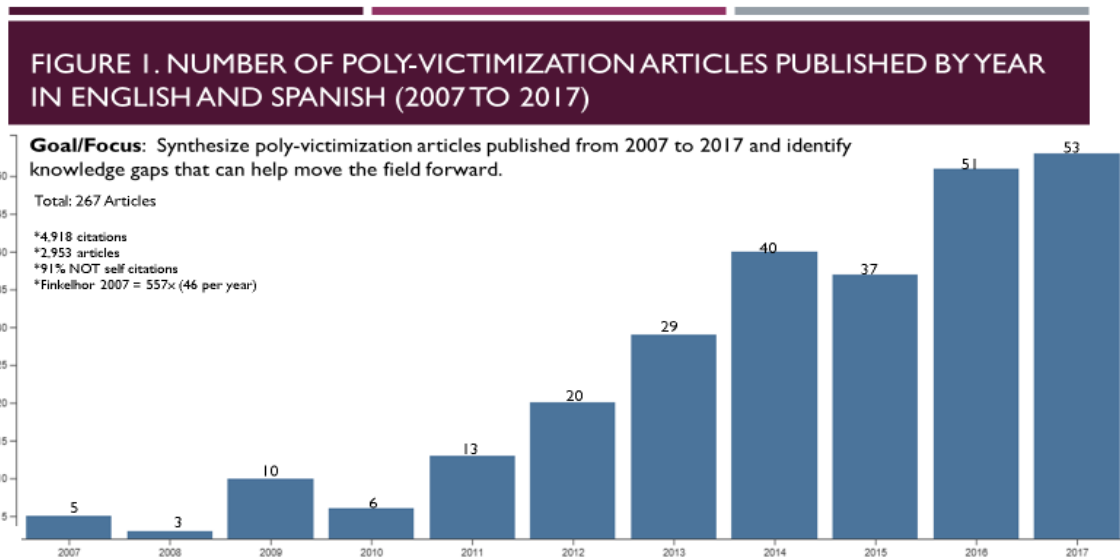
Web of Science, the online citation indexing database, was searched using the string “*poly-victim**” OR “*polyvictim**” in articles published between Jan 2007 and December 2017 in

both English and Spanish. The Web of Science database was selected because it spans across multiple disciplines including science, social science and arts and humanities. This search string was used to capture the different spellings and derivatives of the term. This relatively simple search string allowed me to capture articles that used the term *poly-victim* to refer to the child, as opposed to *poly-victimization* to refer to the condition. This also helped me capture the articles that used a hyphen after the term *poly* along with those that do not and the articles that spell *victimization* with a “z” along with those that spell it with an “s”, as is the case for several non-US based studies. This yielded a total of 303 articles. Search results were further refined by limiting the language selection to English and Spanish. This resulted in a reduction of 5 articles which were published in Croatian (1), Portuguese (1) and German (3).

Type of Documents. While the search allowed us to tap into articles, books, dissertations, and conference proceedings, results were further refined by limiting documents to peer reviewed academic articles. This resulted in an additional reduction of 31 publications, namely 3 book chapters, 4 editorials, 10 reviews and 14 meeting abstracts. A total of 267 peer-reviewed, academic articles that contained the terms *poly-victim* and/or *poly-victimization* (with and without the hyphen) anywhere in the article remained, accounting for 88% of the 303 documents originally identified. After this refinement, no Spanish documents were retained.

Publications Over Time. A 10-year-review of the literature was necessary given the growing acceptance of *poly-victimization* as a conceptual framework to organize and therefore understand violence and victimization exposure. Figure 1 shows the by-year distribution of *poly-victimization* articles published between January 2007 and December 2017. Figure 2 shows the flow diagram for the final selection of articles.

In 2007, the year the concept was formally introduced to the field, five articles on the topic were published. Nineteen additional articles were published in the following three years. From that point on, poly-victimization articles consistently increased, from 13 in 2011 to 40 in 2014. There was a small, but insignificant decline of three articles in 2015, which was subsequently overshadowed by a 14 article increase the following year. Overall, web of science reported a five-fold increase in poly-victimization articles from its inception in 2007 through the end of 2017. As a point of reference, search results using the search term “relational bullying” yielded 60 articles, “school shootings” yielded 81 articles, and “online victimization” yielded 53 articles, as compared to 297 articles for poly-victimization using the same time frame and selection criteria.



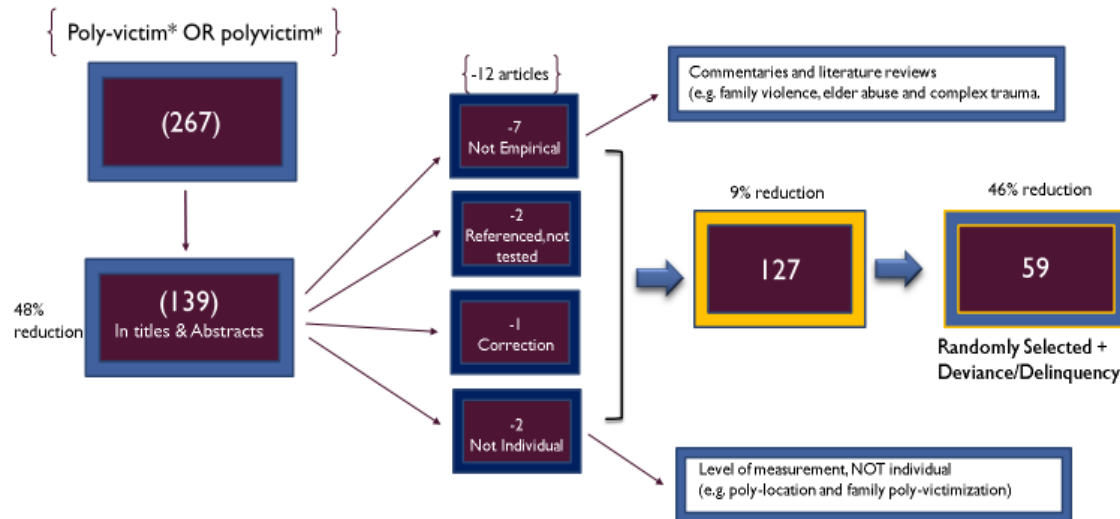
Citation Profile. As of January 5th, 2018, the remaining 267 poly-victimization articles have been cited 4,918 times by 2,953 different articles, the majority of which (91%) are not self-citations. This is substantial in comparison to the literature on school shootings, relational bullying, and online victimization which have gained acceptance and attention during the same time period. Sixty “relational bullying” articles have been cited 1,187 times by 1,061 different

articles; 81 school-shooting articles have been cited a total of 420 times by 342 articles; and 53 online victimization articles have been cited a total of 764 times by 626 different articles.

Additionally, the Finkelhor et al. 2007 article previously referenced is very highly cited with a total of 557 citations, yielding an average of 46 citations per year since its publication in 2007.

Title and Abstract Scan. Subsequently, steps were taken to identify the subset of articles that contained the words “poly-victim” and/or “poly-victimization” (with and without the hyphen) within the titles and abstracts of the remaining peer-reviewed publications. This resulted in a total of 139 articles, a 48% reduction from the 267 summarized above. An additional seven articles were excluded because they were not empirical, but rather commentaries and literature reviews on topics such as family violence, elder abuse and complex trauma (Anderson, 2010; Ford, 2015; Ford, 2012; Hamby, 2016; Rapp, 2016; Snyder, 2016; Srabstein, 2015). Two were excluded because they referenced poly-victimization but did not measure it (Chan, Brownridge, Yan, Fong, & Tiwari, 2011; S. Hamby, Finkelhor, Turner, & Ormrod, 2010). One was excluded because it was a correction to an article previously published (Pereda, Guilera, & Abad, 2014). Two additional articles were excluded because the level of measurement was not the individual. One focused on victimization across multiple locations or poly-location (Butcher, Holmes, Kretschmar, & Flannery, 2016). The other focused on family poly-victimization, defined as the co-occurrence of child victimization and intimate partner violence and elder abuse within a family (Chan, 2017).

Figure 2. Flow diagram for Literature Review



Selected Studies

Systematic random sampling technique was used to select the first 50 studies summarized in this chapter. Nine additional articles were purposively selected because they tested the effect of poly-victimization on deviance, crime, or delinquency, the relationship of interest in the second part of this dissertation. The summaries that follow are based on 59 peer reviewed academic articles that employed 11 different victimization instruments. Original data included information collected in 7 different languages between 1995 and 2016. The most commonly used instrument was the Juvenile Victimization Questionnaire, which was utilized in 46% of the articles selected. Fourteen nations were represented, but the United States accounted for more than half of the articles published (55%). Given this finding, it's not surprising that most of the data collection was conducted in English (61%), although 6 additional languages were represented. The studies were published in 33 different journals across a variety of fields including Psychology, Psychiatry, Sociology, Criminal Justice, and Medicine. Approximately a third of studies were published in either *Child Abuse and Neglect* or *Journal of Interpersonal*

Violence. Table 1 below details the number and percentages of poly-victimization articles by academic journals.

Data Analysis Inclusion Criteria

Further inclusion and exclusion criteria decisions were made on a case by case basis, detailed in Table 2 and discussed below. The first step was to scan through the list of first authors to avoid reporting on the same sample. In general, it was pre-established that, more current articles would be preferred over older ones and that publications reporting on empirical relationships would be given preference over descriptive ones. The objective was to avoid the issue of duplication and therefore the over-representation of certain types of studies. The results of those effort are detailed below.

Descriptive vs. Empirical. Two articles published by Aho and colleagues in 2016 reported on the same group of high school students in Sweden. One article was strictly descriptive, the other evaluated the relationship between different areas of victimization and psychological symptoms. In this case, the decision was to retain the article that tested the relationship as it contained important information regarding the types of outcome measures tested while also addressing the issue of operationalization and instrumentation previously mentioned.

Table 1. Number and Percentages of PV Studies by Academic Journal

Academic Journal	n	%
Child Abuse and Neglect	13	21.3
Journal of Interpersonal Violence	7	11.5
European Child Adolescence Psychiatry	4	6.6
Journal of Adolescent Health	3	4.9
Violence and Victims	2	3.3
Psychology of Violence	2	3.3
Psychological Trauma: Theory, Research, Practice and Policy	2	3.3
Journal of Family Violence	2	3.3
Journal of Aggression, Maltreatment and Trauma	2	3.3
Child Maltreatment	2	3.3
Violence Against Women	1	1.6
Social Psychiatry and Psychiatric Epidemiology	1	1.6
Psychology, Health and Medicine	1	1.6
Psychology of Violence	1	1.6
Preventive Medicine	1	1.6
Preventive Medicine	1	1.6
Journal of Traumatic Stress	1	1.6
Journal of Psychiatric Research	1	1.6
Journal of Mental Health	1	1.6
Journal of Emotional and Behavioral Disorders	1	1.6
Journal of Elder Abuse & Neglect	1	1.6
Journal of Criminal Justice	1	1.6
Journal of Anxiety Disorder	1	1.6
Global Health Action	1	1.6
European Journal of Psychotraumatology	1	1.6
Cyberpsychology, Behavior, and Social Networking	1	1.6
Cultural Diversity and Ethnic Minority Psychology	1	1.6
Criminal Justice and Behavior	1	1.6
Child Maltreatment	1	1.6
Arch Pediatric Adolescent Med	1	1.6
American Journal of Preventive Medicine	1	1.6
Adolescent Health Medicine and Therapeutics	1	1.6

Specific vs. Overall Exclusion. Three separate articles published by Alvarez-Lister and colleagues were included because each article reported on a different set of adolescents. One focused on 132 adolescents receiving treatment in an outpatient mental health facility (Alvarez-

Lister et al., 2014). The second focused on youth offenders across three detention centers (Alvarez-Lister, Pereda, & Guilera, 2016). The last was a case-control study of 472 adolescent ages 12 to 17. Only one of the three publications specifically stated the study from which the data were drawn. To ensure they weren't subsamples coming from the same study, the data collection dates and methods were compared. Data were collected between 2009 and 2012, sampling strategy, however, were different enough to substantiate treating the articles as two separate studies. A careful reading of the articles led me to conclude that 118 adolescents evaluated in the more recent publication are part of the 132 analyzed in the previous one. The sample in the 2017 publication is not a sub-sample of the 2014 one, but rather an aggregate sample supplemented by an additional 354 adolescents from seven secondary schools located with the same geographic area, matched by age and sex. It was also noted that the articles differentially determined and operationalized poly-victimization. One did so deductively and set a cut-off score of four different types of victimizations in the past year to be categorized as a poly-victim (Alvarez-Lister, Pereda, Guilera, Abad, & Segura, 2017). The other did so empirically use cluster analysis and determined that one cluster consistently corresponded to a high poly-victimized group.

The decision-making process for the following two articles were substantially more complex and served to inform future inclusion and exclusion criteria at the data analysis level. Included in the 59 articles are two publications by Chan and colleagues that presented results based on the same sample, same instrument, and same data collection strategy. These topics are relevant and therefore of special interest to this project. It is therefore not appropriate to include both articles in analyses intended to answer questions about who has been studied and how the data has been collected. Doing so would lead a single study to have a disproportionate influence

on the literature review results. Excluding duplicate publications to avoid the issue, however, presents another concern. These articles do provide important information regarding the outcome measures that have been tested to date. This is clearly an important topic to cover in a systematic literature review designed to inform the research community about the existing gaps in the literature. The decision moving forward was therefore to code the data in such a way that will allow me to exclude articles from analyses for specific and conflictual reasons but retain when those conditions do not exist. Data management became a little bit more complicated, but this allows me to retain and evaluate as much information as possible. When dealing with as a sample size of 59, every publication matters. By way of illustration, if this accommodation had not been made, the excluded publication would have been the Chan 2013 article, by virtue of being the older of the two publications. This would have been a systematic, but somewhat arbitrary decision, which in turn would have led me to exclude a publication that evaluates the effect of childhood victimization on PTSD, depression, deliberate self-harm and suicidal ideation. Thereby affecting my ability to speak to the field's true state of knowledge. Studies were also kept for analyses intended to address the different ways in which poly-victimization has been operationalized since it was found that different authors have used different operationalization of the measure. Excluding articles that can speak to differences can be problematic. Partial inclusions also apply to the following studies: (D. Finkelhor, R. K. Ormrod, et al., 2007c; L. Soler, Paretilla, Kirchner, & Forns, 2012; L. Soler et al., 2013; Turner et al., 2010; H. A. Turner, D. Finkelhor, A. Shattuck, & S. Hamby, 2012; Turner, Shattuck, Finkelhor, & Hamby, 2016).

Publications vs. Samples. Related to the issue of including and excluding articles, was the question of how to handle works that detailed the results of two distinct samples within one

publication. The decision-making process was a bit less complicated in this situation since the two publications in question contained two different samples, made use of two distinct instruments and evaluated different empirical relationships (Comasco et al., 2015; Richmond, Elliott, Pierce, Aspelmeier, & Alexander, 2009). Each publication was coded as two separate studies contained within one article. Moving forward, as this dataset is expanded, the necessary criterion to code a publication as two separate studies is having two distinct samples that are not aggregated or reported as one. In this case, the distinctions related to instrumentation and analysis make the need for the separation more apparent, but as the dataset continues to develop they are not necessary. Differences in samples is sufficient to code separately.

Another set of articles published by Cuevas and colleagues had to be considered for inclusion and exclusion purposes. All three articles were based on telephone interviews conducted by specially trained individuals in an experienced research firm. The decision was made to retain all three publications because they reported on three different samples assessed in three separate studies. The publication that used the Developmental Victimization Survey (DVS) was based on a nationally representative sample of 2,030 2 to 17-year-olds (Carlos A. Cuevas et al., 2009). The publication that used the Dating Violence Among Latino Adolescents (DAVILA) was based on a sample of 1,525 middle and high school students (C. A. Cuevas et al., 2014). Lastly, the publication that used the Sexual Assault Among Latina Study (SALAS) was based on a nationally representative sample of 2,000 Latinas (C. A. Cuevas, Finkelhor, Clifford, Ormrod, & Turner, 2010).

Two articles published by Ford and colleagues were also retained for similar reasons. One was based on data collected in 1995 from a sample of juvenile justice involved youth (Ford, 2013). The other was based on data collected between 2005 and 2008 from a community sample

of 12 to 17-year-olds. Appendix A provides the list of articles excluded based on criteria described. Appendix B provides the final list of articles included in this systematic literature review.

Table 2. Summary of Inclusion and Exclusion Decisions Made Based on Participants Sampled in Selected Poly-Victimization Publications

Author Name	Year	Test Effects	Who Studied	How Studied	How Collected	How Measured	How Operationalized
Aho	2016 ^a	Incl	Excl	Excl	Excl	Excl	Incl
Aho	2016 ^b	Incl	Incl	Incl	Incl	Incl	Incl
Alvarez-Lister	2014	Incl	Incl	Incl	Incl	Incl	Incl
Alvarez-Lister	2016	Incl	Incl	Incl	Incl	Incl	Incl
Alvarez-Lister	2017	Incl	Incl	Incl	Incl	Incl	Incl
Chan	2013	Incl	Excl	Excl	Excl	Excl	Incl
Chan	2014	Incl	Incl	Incl	Incl	Incl	Incl
Cuevas	2009	Excl	Incl	Incl	Incl	Incl	Incl
Cuevas	2010	Incl	Incl	Incl	Incl	Incl	Incl
Cuevas	2014	Incl	Incl	Incl	Incl	Incl	Incl
Ford	2010	Incl	Incl	Incl	Incl	Incl	Incl
Ford	2013	Incl	Incl	Incl	Incl	Incl	Incl
Soler	2012	Incl	Excl	Excl	Excl	Excl	Incl
Soler	2013	Incl	Incl	Incl	Incl	Incl	Incl
Finkelhor	2007	Incl	Long	Long	Long	Long	Long
Turner	2010	Incl	Incl	Incl	Incl	Incl	Incl
Turner	2012	Incl	Long	Long	Long	Long	Long
Turner	2016	Incl	Incl	Incl	Incl	Incl	Incl

Note: Titles of articles with partial inclusion

Aho, N., Gren-Landell, M., & Svedin, C. G. (2016). The Prevalence of Potentially Victimizing Events, Poly-Victimization, and Its Association to Sociodemographic Factors: A Swedish Youth Survey.

Chan, K. L. (2013). Victimization and poly-victimization among school-aged Chinese adolescents: Prevalence and associations with health.

Soler, L., Paretilla, C., Kirchner, T., & Forn, M. (2012). Effects of poly-victimization on self-esteem and post-traumatic stress symptoms in Spanish adolescents

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Re-victimization patterns in a national longitudinal sample of children and youth (2 waves of DVS)

Turner, H. A., Finkelhor, D., Shattuck, A., & Hamby, S. (2012). Recent Victimization Exposure and Suicidal Ideation in Adolescents (2 waves of NatSCEV1)

Incl = Included **Excl** = Excluded **Long** = Analyzed with Longitudinal Studies

Chapter 3: Systematic Literature Review-Results and Discussion

This systematic literature review was designed to answer the question of how poly-victimization has been studied to help the field understand its current state of knowledge. The main objective is to summarize the literature by addressing: (1) the types of relationships that have been empirically tested (2) the means by which poly-victimization has been assessed (3) and the ways in which it has been operationalized. This is the first attempt at a systematic review of the poly-victimization literature, it was therefore important to also summarize the designs, populations, methods, and instruments used to assess it. These summaries are interweaved in the text that follows and are meant to cover the main portions of an academic research article up through the end of the methods section.

But First Some Descriptive Studies

Approximately 79% of the publications identified in this project focused on testing an empirical relationship where poly-victimization is the predictor of some adverse effect. Seven additional inferential studies evaluated poly-victimization as something other than an independent variable. Two studies evaluated it as a dependent variable (Carlos A. Cuevas et al., 2009; Robboy & Anderson); two as a control variable (Betts, Williams, Najman, & Alati, 2013b; Blain, Muench, Morgenstern, & Parsons, 2012); two as a moderating variable (Andrews et al., 2015; Reidy, Early, & Holland, 2017) and one as mediating variable (Andrews et al., 2015). The remaining eight studies were purely descriptive and therefore exclusively focused on documenting the past-year and lifetime poly-victimization rates for a variety of groups. These studies are detailed in Table 3 and are discussed below. Table 3 describes the participants

sampled, the instruments used to measure their victimization, the nations where the studies were conducted, and the victimization and poly-victimization rates reported in each of them.

Participants. Looking down the column labeled *participants* in Table 3 we can appreciate just how varied the populations sampled have been. Study participants have included community-based samples such as high school (Aho, Gren-Landell, & Svedin, 2016) and university students (Bogolyubova et al., 2015) and clinical samples such as homeless (Bender, Thompson, Ferguson, Yoder, & Kern, 2014) and child welfare involved youth (Cyr et al., 2012). Specific minority populations such as Latino women (Carlos A. Cuevas et al., 2010) and sexual minorities, (Sterzing, Ratliff, Gartner, McGeough, & Johnson, 2017) have also been the focus of poly-victimization scholars.

Cultural Context. The column that follows, allows us to observe that a variety of nations, and therefore a variety of social, political, and economic contexts, have contributed to our understanding of poly-victimization rates.

Across the Life Course. The forth column labeled *Age* showed that although most poly-victimization studies focus on young people, the four stages of the life-course (Davis et al., 2017) are represented in the literature.

Instrumentation and Design. Articles described in Table 3 are predominantly, but not exclusively quantitative. Most studies used formalized research instruments such as the Juvenile Victimization Questionnaire (Adams et al.) and the Lifetime Trauma and Victimization History Instrument (LTVH) (Carlos A. Cuevas et al., 2010) but data obtained from female sex workers was gathered via qualitative interviews (Coetzee, Gray, & Jewkes, 2017).

Victimization Prevalence Rates. All studies reported relatively high rates of victimization, ranging from 43.5% according to Latino women in the United States (C. A.

Cuevas et al., 2010) to 99% according to university students in Russia (Bogolyubova, 2014). It was interesting to note the different ways in which victimization rates were compared across these descriptive studies. The different types of comparisons made are detailed in the second to last column labeled, “% victimized”. As expected, a comparison by gender was presented and the study that did so, found no significant gender difference (Aho, Gren-Landell, et al., 2016).

Victimization rates were also compared across specific timeframes (past-year vs. lifetime) and sample types (clinical vs. non-clinical). Lifetime rates were found to be somewhat, but not substantially greater than past-year rates. On the other hand, rates based on the clinical vs. non-clinical comparison were found to be substantially different. Another comparison was based on victimization rates prior to and after a change in social status, namely, pre and post homelessness. *Pre*-homelessness rates were only moderately lower than *post*-homelessness rate, 78% as compared to 85% respectively. These results suggest that for this sample of youth, home-based victimization was a precipitant to homelessness, which in turn created a new set of circumstances with a new set of victimization experiences. This interpretation is partially supported by the fact that the types of victimizations assessed prior to leaving home were physical neglect, emotional abuse, physical abuse, and sexual abuse using the 25-item Childhood Trauma Questionnaire. After leaving home, the types of traumas assessed were more along the lines of robbery involving a weapon, physical assault by an acquaintance or stranger and witnessing a severe assault using the Traumatic Life Events Questionnaire.

Poly-victimization Prevalence Rates. The right-most column in Table 3 shows that among descriptive studies, poly-victimization rates varied substantially. Past-year rates ranged from a low of 13.8% for a school-based sample in Spain (Alvarez-Lister et al., 2016) to a high of 54% for a group of child welfare involved youth in Canada (Cyr et al., 2012). As expected, lifetime

rates were somewhat higher ranging from a low of 31.3% in a US based group of Latino women to a high of 66% based on a group of female sex workers in Africa (Bogolyubova et al., 2015). It makes sense that the clinical groups, as compared to the community-based groups, in both the PY and LT comparisons reported higher poly-victimization rates. It is interesting to note that while there was no substantial gender difference in *victimization* rate, there does appear to be a small, but important gender difference in *poly-victimization* rate where girls were somewhat more likely to be classified as poly-victims. The Aho 2016 study just discussed reported a higher poly-victimization rate for girls, as compared to boys. The boy PV rate was 8.5% while the girls' rate was four percentage points higher, at 12.5%. Four percentage points may not seem like a substantial amount because of the low base numbers, but it reflects a 47% difference. This higher rate for girls is not consistent across the literature, as several studies using different samples and different instruments have found higher poly-victimization among boys (Chan, 2013; Cuevas, 2009; Cyr, 2014).

Poly-victimization Rates by Level of Poly-Victimization. Only one out of the eight studies described in Table 3 reported prevalence rates by level of poly-victimization and it found that among poly-victims, those who reported a middle range of victimizations (8-14 types) were the most common category. These participants were classified as “highly poly-victimized” and made up 45.5% of the total sample, as compared to the less victimized (1-4 types), the low poly-victim (5-7 types) and the extreme poly-victim (15+ types) who made up 18%, 25%, and 11% of the sample, respectively.

Table 3: Summary Table of Exclusively Descriptive Poly-victimization Publications

Article	Participants	Nation	Age	Instrument	% Victimized	% Poly-victimized
Aho et al, 2016	5,960 high school students	Sweden	17	JVQ	Overall: 84% (Ch) Male: 83.0% (Ch) Female: 85.2% (Ch)	Overall: 10.3% (Ch) Male: 8.5% (Ch) Female: 12.5% (Ch)
Alvarez-Lister et al., 2017	472 adolescents (118 receiving MH services, matched with a school-based sample of 354)	Spain	12 to 17	JVQ	Clinical: 85.6% (PY) Non-clinical: 65.7% (PY)	Clinical: 40.6% (PY) Non-clinical: 13.8% (PY)
Bender, et al., 2013	145 homeless youth	US	18 to 24	CTQ TLEV	Pre-Homelessness 78% Post-Homelessness 85%	NR ²
Bogolyubova, et.al, 2014	743 university students	Russia	19 to 25	JVQ	Overall: 99% (Full Ch)	Low PV: 24.7% (Full Ch) High PV: 45.5% (Full Ch) Extreme PV: 10.9% (Full Ch)
Coetzee, Gray & Jewkes, 2017	508 female sex workers	Africa	18 to 59	Qualitative Interviews	By IP PY: 81.9% By IP LT: 84.7%	Overall: 66% (LT)
Cuevas, Sabina & Picard, 2010	2,000 Latino women	US	18 to NR	LTVH	LT: 43.5%	31.3% (LT)
Cyr, et.al, 2012	220 child welfare involved youth	Canada	2 to 17	JVQ	PY: 90%	54% (PY)
Sterzing, et. al., 2017	1777 gender minority adolescents	US	14 to 19	JVQ SBS	NR ¹	40% (PY)
Note: Poly-victimization rates reported above are based on operationalization used in the included articles						
JVQ = Juvenile Victimization Questionnaire			IP: Intimate Partner			NR ¹ = indicates overall rate was not reported. Instead rates by type were available.
MINI = Mini International Neuropsychiatric Interview			CH = childhood (*before age 10)			
TLEV= Traumatic Life Events Questionnaire			PY = past-year			NR ² = indicates no cut off score was established. PV = more than one victimization
LTVH = Lifetime Trauma and Victimization History Instrument			LT = lifetime			
SBS = Swearer Bullying Survey			Full Ch = Full childhood, 0 to 17			

Although most poly-victimization articles have focused on testing the adverse effects of poly-victimization, the first section of this review focused on summarizing the eight exclusively descriptive studies identified and included in this systematic review. Even in this small subset of studies, we were able to see how diverse the field's analysis of poly-victimization has been. The field's exploration of poly-victimization has been diverse enough to capture different samples, different cultural contexts, different instruments, and different designs. Studies have been predominantly quantitative, instruments have been predominantly empirically validated, cultural contexts have included industrialized as well as non-industrialized nations, and prevalence rate comparisons have been made across a variety of reference points including specific timeframes (past-year vs. lifetime) and sample types (clinical vs. non-clinical). Results showed that poly-victimization rates varied widely, that gender differences were inconsistent, and that most analyses have focused on evaluating the differences between poly-victims and non-poly-victims, as opposed to differences among poly-victims.

What Relationships Have been Evaluated? (n=46)

The remaining 46 articles focused on evaluating the effect of poly-victimization on a variety of outcome measures, here broadly categorized as mental health related (74%); behaviorally focused (61%); and socially related (13%). Depression was the most commonly evaluated mental health issue, making up 54 % of all the articles that tested an empirical relationship and 74% of the articles that captured some element of mental health as an adverse outcome. This was followed by anxiety and PTSD, which made up 35% and 26% of the 46 articles analyzed for this research question. Approximately 28% were able to capture an element of anger, hostility or aggression. About the same proportion of articles evaluated the relationship between victimization and drug or alcohol consumption (22%) and (non-substance related) self-

injurious thoughts and behaviors (24%). Just over 40% of articles (n=19) captured some element of deviant, delinquent, criminal or rule-breaking behavior directed at others or their property, but inclusion into this category was very broad and will be discussed later. The least commonly assessed adverse outcomes involved issues around self-esteem (n = 4), deviant sexual behavior (n= 4), academic difficulties (n= 3), abandonment (n= 2) and treatment response (n= 1). Articles involving biological/genetic factors were also rare, only one article captured this. Table 4 details the types of adverse outcomes tested, and the number of articles categorized under each type.

Table 4. Adverse Effects Tested in Poly-Victimization Publications

Mental Health Related	n	%	Socially Related	n	%
Anger, Hostility, Aggression	14	29.0	Abandonment Concerns	2	4.2
Depression	26	54.2	Social Support	1	2.4
Dissociation	6	12.5			
Phobia/Paranoia	5	10.4			
PTSD	13	27.1	Others	n	%
Self-Injurious Thoughts/Behaviors	11	22.9	Academic Concerns	3	6.3
Anxiety	17	35.4	Genetic/Biological	2	4.2
			Self-esteem	4	8.3
Behaviorally Focused	n	%	Physical Health	5	10.4
Deviance/Delinquency/Rule-Breaking	19	39.6	Treatment	1	2.1
Drugs and Alcohol Use	10	20.8			
Deviant Sexual Behavior	4	8.3			

Note: Not mutually exclusive categories

Discussion

This section focused on detailing the type of relationships analyzed in poly-victimization publications. Results suggest that while great work has been done on establishing the effect of poly-victimization on mental health, specifically depression, anxiety and PTSD, there are other adverse mental health and non-mental health issues of concern that warrant more attention in future studies. Of particular concern with adolescents are socially related issues, which came up

in only 13% of articles summarized. Only three studies addressed it, and only two types, abandonment concerns and social support, were evaluated. It seems like this is an area rich for growth moving forward. Two additional areas under the “other” category could also benefit from some additional attention, academic concerns and treatment. Academic concern is of interest given the body of research that has focused on the school to prison pipeline. More concerning, however, is the lack of research on the types of treatments that work for poly-victimized children. The fundamental findings regarding the adverse impact of poly-victimization have already been established. The next steps should focus on establishing the service needs, utilization patterns and program effectiveness of this overburdened group of children.

Table 4 showed that 41% of articles assessed the relationship between poly-victimization and some element of deviance, delinquent or rule-breaking behavior. These articles, however, are over-represented because efforts were made to oversample studies that evaluated these specific adverse effects. This sampling strategy led to the identification and inclusion of nine articles that focused on externalizing and rule-breaking behaviors. Had these articles not been purposively included, only 18% of the sampled articles would have addressed delinquency. An interesting result given the amount of research that has consistently linked victimization to delinquency.

Who Has Been Studied? (Participants, n=56)

Sample Size. Sample size was widely dispersed from a low of 66 (Stimmel, Cruise, Ford, & Weiss, 2014) to a high of 38,282 (Leach, Stewart, & Smallbone, 2016). Excluding this extreme outlier, the mean sample size was 2,169. The median was 923, indicating the distribution is positively skewed (skewness, 3.154)

Age. The most common participants were adolescents, who were sampled in 63% of the summarized articles. Adults were included in 46%, while young children were included in 11% of the articles. These numbers do not add up to 100 percent because they were not created to be mutually exclusive. However, when mutually exclusive categories were created, I was able to observe that none of the poly-victimization studies exclusively sampled young children, which was an unexpected finding given that young children are often the focus of victimization studies and policies. Approximately 45% of articles (n=25) contained adolescent-only samples. They were followed by articles with adult-only samples which made up 38% of the articles. The remaining 18% were made up of articles that sampled combinations of children, youth, and adults. As it pertains to age ranges, the largest proportion of studies contained samples whose oldest participants were under the age of 18 (57%). By age 25, we can account for 86% of the publications indicating that even when adults are the focus of poly-victimization articles, samples tended to be relatively young.

Gender. On average, male and female participants were about evenly distributed. Eight studies, or about 15% of the sample, exclusively sampled women, while 9% (n=5) sampled males-only. All except three of these male-only and female-only studies (n=13) were based on clinical samples, such as female sex workers (Coetzee et al., 2017), delinquent girls (D. D. DeHart & Moran, 2015), adult survivors of childhood victimization (Richmond et al., 2009), child sexual abuse (Robboy & Anderson, 2011), justice involved juveniles (Leach et al., 2016; Stimmel et al., 2014), street children (Bashir & Dasti, 2015), and gender minorities with compulsive sexual behaviors (Blain et al., 2012). This is an interesting observation given that the majority (57%) of the articles coded were classified as non-clinical. Approximately 36% of

the publications reported data based on clinical samples. Table 5 details the age, sample size, gender distribution, and sample type used in each of the clinical studies included in this review.

Sixty-five percent of studies employed non-probability sampling technique, while 22% used probability sampling. The remaining 7% used some elements of both probability and non-probability sampling techniques. For example, a study of children in China recruited its participants by first purposively selecting six research sites, then randomly selecting two urban and one rural district from each of the six sites. A total of 196 high schools were randomly selected from each city and one or two classes were randomly selected within each high school. All 15 to 17-year-olds in these classes were invited to participate for a total sample of 18,341 adolescents (K. L. Chan, 2013).

Discussion

This section focused on describing the different populations that have contributed to the field's understanding of poly-victimization. Results showed that samples types and sample sizes varied widely; that much of what we know about poly-victimization comes from the reports of adolescents, and that most studies are based on non-probability samples. The fact that the most common respondents were adolescents is not necessarily concerning. Consistent with the descriptive studies previously summarized, both adults and children are represented in the literature. What is concerning, however, is the fact that almost two-thirds of studies are based on non-probability samples. Part of this is accounted for by the fact that 43% of studies are based on clinical samples, but in order to be confident in our generalizations about poly-victimization, greater efforts need to be made to capture representative samples of both clinical and non-clinical populations.

How Has Poly-victimization Been Studied? (Research Design, n=55)

Not surprising most studies were quantitative in nature (84%) and employed a cross-sectional design (80%). None of the remaining studies used a qualitative research design, but three used mixed methods. These mixed methods studies are summarized in Table 6 below. All three studies used a combination of qualitative interviews complemented with a self-report survey. DeHart & Moran (2010) is somewhat unique given that their interview is grounded on a technique specifically designed to improve the issue of timing/sequencing that cross-sectional studies are plagued with. It is also supplemented by archived data along with a self-report survey. This is an important differentiation because most studies do not triangulate data in this manner.

Table 5. Clinical Samples Evaluated in Poly-Victimization Articles Published between 2007 and 2017

Article	Age	n	%Female	Sample Type
Adams et al. 2016	13 to 18	743	62	CPS involved youth receiving MH services
Alvarez-Lister, et al., 2014	12 to 17	132	64	Adolescents receiving services in outpatient MH services
Alvarez-Lister, Pereda & Guilera, 2016	12 to 17	100	19	Youth offenders from 3 detention centers
Alvarez-Lister, et al., 2017	12 to 17	118*	66	Youth with clinical MH diagnosis receiving treatment in public mental health centers
Bashir & Dasti, 2015	9 to 13	77	0	Street children in Lahore City
Beck et al., 2014	24	2981	48	CPS involved individuals
Bender et al., 2014	18 to 24	145	35	Street involved (homeless) youth
Betts et al., 2013	18 to 23	2547	51	Mothers receiving obstetrics care in a public hospital
Blain et al., 2012	19 to 63	182	0	Men with compulsive sexual behaviors
Burnett et al., 2016	NR	1670	72	Elder abuse cases substantiated by adult protective services
Cecil et al., 2016	16 to 24	124	53	High risk sample of inner city youth
Charak et al., 2016	18 to 74	346	56	Adults with history of lifetime trauma
Cinamon, Muller, & Rosenkranz, 2014	NR	161	64	Adult survivors of childhood trauma with a confirmed PTSD diagnosis
Coetzee, Gray & Jewkes, 2017	18 to 59	508	100	Female sex workers
Comasco, et al., 2015	12	881	50	Hospital based birth cohort
Cyr et al., 2012	2 to 17	220	50	Child-welfare involved youth
DeHart & Moran, 2015	12 to 18	100	100	Delinquent girls
Ford et al., 2013	10 to 16	1959	24	Juvenile justice involved youth
Kaslow & Thompson, 2008	NR	152	55	African American women who sought services for IPV and their children
Leach, Stewart & Smallbone, 2016	0 to 25	38,282	0	Birth cohort of CPS or justice involved males
Radatz & Wright, 2017	18 to 72	424	100	Incarcerated women
Richmond et al., 2009	18 to 23	311	100	Adult survivors of childhood victimization
Robboy & Anderson, 2011	12 to 17	139	100	Child sexual abuse survivors
Segurat et al., 2015	12 to 17	127	51	Adolescents cared for by the child welfare system
Stimmel et al., 2014	12 to 16	66	0	Boys held in juvenile detention
Wong, Clark & Marlotte, 2016	13 to 25	389	32	Homeless or precariously based youth

Note: * indicates information is based on clinical sub-sample

Table 6: Summary Table of Mixed Method Studies

Study	Sample Size	Sample Type	Design 1	Design 2	Design 3
Bender et al., 2014	145	street-involved youth	Qualitative Interviews	Survey	na
Blain et al., 2012	182	men reporting compulsive sexual behavior	Qualitative Interviews	Survey	na
DeHart & Moran, 2010	100	delinquent girls	Life History Calendar	Survey	Archival Records

Nine studies were classified as longitudinal, but six of them were not true longitudinal studies. What was presented instead were cross-sectional analyses of what was originally a longitudinal study. Table 7 lists the nine longitudinal studies, specifies if longitudinal analyses were conducted and if so, the type of longitudinal design employed. Among the five longitudinal studies that presented analyses based on longitudinal data, four were panel studies.

Table 7: Summary Table of Longitudinal Studies

Study	Longitudinal Analysis	Type of Longitudinal Analysis
Andrews et al., 2015	No	n/a
Beck et al., 2014	No	n/a
Betts et al., 2013	No	n/a
Burns et al., 2016	No	n/a
Cinamon, Muller & Rosenkranz	No	n/a
Comasco, et al., 2015	Yes	panel
Cuevas, et al., 2009	No	n/a
Farrell & Zimmerman, 2017	yes	panel
Finkelhor, Ormond, & Turner, 2007	yes	panel
Leach, Stewart & Smalbone, 2016	yes	cohort
Turner et al., 2012	yes	panel

Discussion

This section focused on summarizing the ways in which poly-victimization has been studied. Result showed that most poly-victimization publications have focused on evaluating its adverse effects. More work needs to be done to empirically determine the factors that predict

poly-victimization or predispose someone to become a poly-victim. As previously argued, the state of knowledge does not remain an academic issue, but rather a very practical one.

Understanding the adverse effects of poly-victimization is important. It provides researchers and clinicians the type of information needed to figure out *why* responding to poly-victimization is important and *how* diverse the types of services/treatment plans need to be. Nevertheless, such a strong focus on adverse effects only allows us to *respond* to this condition. The field is in serious need of information intended to help us *prevent*, not just respond to, poly-victimization.

In addition to a focus on prevention, more work needs to be done to create longitudinal studies, as most poly-victimization studies are cross-sectional. By way of this systematic review, only six longitudinal studies, representing approximately 10% of the sample, were identified. Only one of these six studies, representing less than 2% of the total sample of studies, addressed the issue of predicting poly-victimization. It found that poly-victimization *onset* was linked to violent, disruptive, and problematic families while *persistence* was linked to high levels of anger and aggression (D. Finkelhor, R. K. Ormrod, et al., 2007c). This suggests that efforts to prevent poly-victimization should focus on both the family and the individual. Once a family comes to the attention of officials, an evaluation should to be carried out to identify the specific needs of the family in question. Once their needs are identified, a family-based treatment plan should be developed in coordination with other social service agencies because it is unlikely that any single one will address all the needs of the family. The child victim also needs to receive individualized treatment that focuses on identifying emotional irregularities and on developing effective anger management techniques.

Results also found that the overwhelming majority of studies are quantitative (84%). Additional efforts need to be made to incorporate more qualitative and mixed methods studies

that complement each other and supplement what we already know about poly-victimization. None of the studies summarized in this project were exclusively qualitative. Three, however, detailed in Table 6, were mixed methods and by way of the qualitative portions of these studies, we were able to capture that the relationship between victimization and its adverse effects is complex. For example, a study of delinquent girls found that alcohol and drug use were a means of coping with victimization; that parental corruptive behavior was a factor in girls' substance use onset; and that once drug involved, girls' presence in risky situations increased their likelihood of witnessing violence (D. D. DeHart & Moran, 2015). This cyclical or bi-directional process has not been captured by quantitative studies because none has thought to ask the question, and most have focused on direct relationships. One of the many advantages of qualitative studies is that results are not limited to the questions researchers are able to create in advance.

How Has Poly-victimization Been Measured? (Instruments, n=46)

While most articles reported using a formalized instrument to measure victimization, some did not. Twenty-four different instruments were found among the 46 publications that named a formal questionnaire. The JVQ was used in approximately half of the publications (47.8%) making it the most commonly used instrument. Approximately 1 out of every 4 publications reported using more than one instrument, some of which also included the JVQ (n=4). Table 8 lists the different instruments identified in the poly-victimization articles and the percent of articles that reported using it.

How Has Data Been Collected? (Data Collection, n=49)

Most data were collected directly from individuals using self-report surveys (88%), half of which were self-administered, predominantly by persons under the age of 18 (65%). Forty-

three percent of studies involved an adult retrospectively reporting on his/her own childhood adulthood. Only 8% of studies collected data via a proxy respondent. In our set of studies this was exclusively the case when a parent reported on behalf of a child under the age of 10. In cases when the data was not self-administered, most (63%) were collected by specially trained personnel. Having multiple informants, however, was a rarity, only one study triangulated their data in this manner (Kaslow & Thompson, 2008). The studies that did not collect data from individuals, did so from archived records involving clinical samples and were therefore coded as content analyses. Table 9 summarizes the sample types and data sources used in each of these six content analyses. Sample types included CPS and juvenile justice involved youth. In these cases, victimization data was obtained from records of clinical intakes at admission or from shared administrative data systems. Three of these content analyses were based on adult samples who either survived childhood victimization or who had a substantiated, and therefore recorded elder abuse case.

These last two sections were focused on summarizing the instruments used and the ways in which the data were collected. Results showed that the most commonly used instrument was the Juvenile Victimization Questionnaire and that most data were based on self-reports. A small portion of studies used a proxy respondent, but even fewer made efforts to triangulate the data.

Table 8 Summary Table of Instruments Used in Poly-victimization Studies

Victimization Instrument	n	Percent
JVQ-Juvenile Victimization Questionnaire	22	47.8%
CTS-Conflict Tactic Scales	2	4.3%
Bullying and Friendship Interview Schedule	1	2.2%
LITE-Life Incidence of Traumatic Events Scale	1	2.2%
CTQ-Childhood Trauma Questionnaire	2	4.3%
CIDI-Composite International Diagnostic Interview	1	2.2%
Trauma History Profile	1	2.2%
UCLA PTSD Index	1	2.2%
TVH-Lifetime Trauma and Victimization History Instrument)	1	2.2%
ESI-Traumatic Experiences Screening Instruments)	1	2.2%
MINI (Mini International Neuropsychiatry Interview)	1	2.2%
UIVS-University of Illinois Victimization Scale)	1	2.2%
Client Assessment and Risk Evaluation	1	2.2%
Briere's Childhood Maltreatment Interview Schedule	1	2.2%
ABI-Shepard and Campbell's Abusive Behavior Inventory	1	2.2%
Koss and Oro's Sexual Experience Survey	1	2.2%
Trauma Assessment for Adults-Self Report	1	2.2%
ROME-Record of Maltreatment Experience	1	2.2%
LVTH-Lifetime Trauma and Victimization History Instruments	1	2.2%
WHO-Violence Against Women Questionnaire	1	2.2%
HCAT-Homophobic Content Agent Target Scale	1	2.2%
AAUW-Sexual Harassment Survey	1	2.2%
TESI-Traumatic Experiences Screening Instrument	1	2.2%
Diagnostic Interview Schedule	1	2.2%
Multiple Instruments	12	26.1%

Moving forward efforts should focus on triangulating the data in order to overcome some of the arguments opposing proxy surveys

Table 9 Summary Table of Poly-Victimizations Content Analyses

Study	Year of Publication	n	Sample Type	Data Source
Adams	2016	1743	CPS involved youth	clinical care intake
Burnett	2016	1670	substantiated elder abuse cases	comprehensive investigations
Cinamon	2014	161	adult survivors of childhood trauma with confirmed PTSD diagnosis	intake at admission, discharge, and six-month follow up
Ford	2013	1959	juvenile justice involved youth newly admitted to detention facility	intake within 24-72 hours of admission to juvenile detention facility
Leach	2016	38,282	CPS or juvenile justice involved in a birth cohort	Administrative data system that links together data from four different facilities
Robboy	2011	139	child sexual abuse survivors	chart reviews of forensic evaluation of sexual abuse seen at a child abuse assessment center

How Has Poly-victimization Been Operationalized? (Measures, n=61)

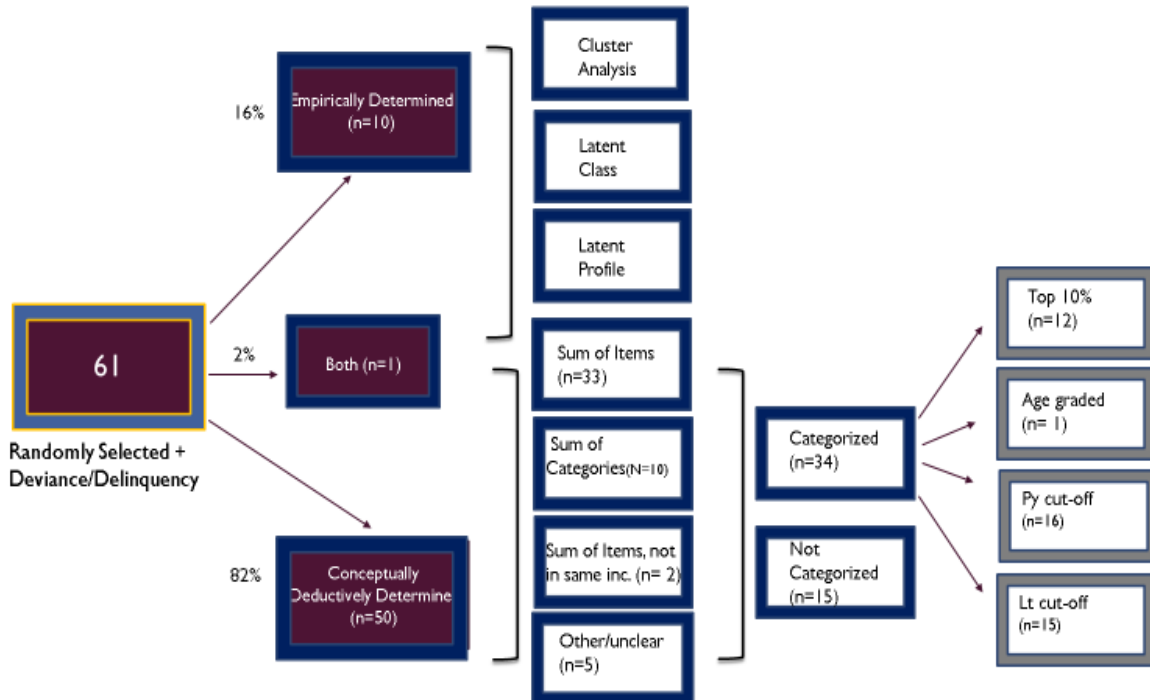
The measures section of our sample of poly-victimization articles were systematically reviewed to determine how poly-victimization has been operationalized in the field. A discussion focused on operationalization, however, would be incomplete without first addressing the ways in which the literature has conceptualized poly-victimization.

Conceptualization. A thematic review of the conceptualization of the terms poly-victim and poly-victimization revealed that some consistency exists across studies. Poly-victimization was consistently defined as experiencing an above average number of different victimizations (Alvarez-Lister et al., 2017); simultaneously experiencing several different kinds of victimizations in separate incidents (D. D. DeHart & Moran, 2015); or high cumulative levels of victimization (Elliott et al., 2009), to name a few. Some deviations from the conceptual

definition introduced in 2007, however, were also noted. For example, a 2006 study that tested the effect of poly-victimization on depressive symptoms and antisocial behavior defined a poly-victim as someone who experienced cyber victimization and psychological intimate partner violence (Sargent, Krauss, Jouriles, & McDonald, 2016). Another study focused exclusively on “peer-poly-victimization” (Espelage, Low, & De La Rue, 2012), and defined it as experiencing multiple types of victimizations at school. A third example restricted poly-victimization to experiencing child maltreatment directly and intimate partner violence indirectly (Kaslow & Thompson, 2008). The difference between these conceptualizations is that the latter examples restricts the types of victimizations assessed by either type or locations, whereas the former does not. As originally intended, poly-victimization is not to be restricted in these ways.

Operationalization. An analysis of the operationalization of the terms shows even more variability across studies. Not all studies that widely assessed victimization operationalized poly-victimization in the same way. Figure 3 shows the ways in which poly-victimization has been operationalized in the field. Starting with the main differentiation of studies that empirically or conceptually determined poly-victimization. Followed by the ways in which each of those are constructed. The majority of articles with a deductively/empirically determined poly-victimization variable have used a simple sum of item construction. This total sum of items was often categorized by establishing a cut-off score determined in one of the four ways illustrated below. The remaining 16% were empirically determined using cluster, latent or latent profile analysis.

Figure 3. Operationalization of Poly-Victimization



Number of Victimization Items. There is a great deal of disparity in the ways poly-victimization is measured. To start, the number of items used to assess poly-victimization ranged from a low of 4 (Leach et al., 2016) to a high as 78 (Armour & Sleath, 2014a). Approximately 10% of our sample (6/61) did so using 10 items or less. The mean number of items, however, was 29. The median was 33, indicating a negatively skewed distribution where the mean is being pulled towards the left by articles using a low number of victimization indicators. Modal number of items was 34, supporting our previous finding that a large proportion of articles use the JVQ to assess poly-victimization (Finkelhor, Hamby, Ormrod, & Turner, 2005).

There are two overarching ways in which poly-victimization has been determined. One is based on statistical analyses to empirically determine how different types of victimizations cluster together. The other is conceptually or deductively determined, using a priori categorical

definitions based on cumulative knowledge. In this sample of articles, poly-victimization was predominantly deductively determined. A total of 49 articles fall into this category, which reflects approximately 82% of our sample of publications.

Deductively Determining Poly-victimization

Deductively determined poly-victimization can be summarized and analyzed in one of two ways. As a continuous variable, often representing the *condition* of poly-victimization, or as a dichotomous variable, often representing the individual's victimization *status* (poly-victim vs. non-poly-victim). The latter categorization has been predominantly determined in three ways: using a past-year cut-off score, a lifetime cut-off score, or the top 10% of the distribution being analyzed. The cut-off scores used to determine poly-victimization were found to be inconsistent across studies, just as the number of items was. Table 10 summarizes the number of items, number of categories and cut-off scores used to operationalize poly-victimization by article that deductively determined poly-victimization.

Cut-off Scores. Not all studies reported a cut-off score. The summary that follows is based on the 48 articles that did. A total of 16 articles used a past-year cut off score to differentiate between poly-victims and non-poly-victims. These scores ranged from a low of 2 to a high of 10 different types of victimizations. The most commonly used cut-off score for past-year victimization, however, was four. This is not surprising considering that experiencing four different kinds of victimizations was the original operationalization of a poly-victim. The goal at that point was to identify the number of children who had an above average rate of victimization. The statistical criteria used to differentiate this group was one standard deviation above the mean based on 34 different victimization items.

Only one study employed an age graded categorization strategy (Radford, Corral, Bradley, & Fisher, 2013) meaning that cut-off scores depended on the age of the respondent. In this case, a cut off score of six was set for children between the ages of 6 and 10. A cut-off score of 13 was set for participants between the ages of 11 and 17. Finally, a cut off score of 15 was set for 18 to 24-year-olds. Twelve studies reported using the top 10% criteria to determine poly-victimization. This information together indicates that there is little consensus about what constitutes a poly-victim across studies.

Generally speaking, *lifetime* cut-off scores were higher than *past-year* cut-off scores, but there was a substantial amount of overlap between the two. Lifetime scores ranged up to 15, but as many as five studies used a *lifetime* cut off score of 4 different victimizations to classify an individual as a poly-victim. This is somewhat concerning because past-year cut-off rates should differ from lifetime rates. Research results have consistently shown that lifetime victimization rates are greater than past-year rates, but these studies seem to ignore that. Two out of these five examples can be explained by the fact that poly-victimization was calculated based on the sum of categories, as opposed to the sum of items (Chan, 2014; Charak et al., 2016). In these two cases over 34 victimization items were grouped into 5 categories. To be classified a poly-victim in these studies, the respondent would have had to report exposure to at least one victimization in four out of the five categories created.

Still more concerning is the fact that several studies that self-identify as evaluating victimization from the poly-victimization perspective in practice are still just measuring “multiple”, more than one victimization, as opposed to “poly” victimization. A total of 10 studies operationalized poly-victimization as experiencing more than one type, which is a significant deviation from the chronic condition poly-victimization is intended to measure.

Number of Aggregate Categories. To facilitate comparative statements, data analysis and dissemination efforts, 68% of studies grouped the victimization items into aggregate categories. The number of categories used across publications ranged from a low of 2 to a high of 14. The modal number of categories, however, was five, consistent with articles that use the categorization that were presented at the time the JVQ was introduced to the field, namely conventional crime, child maltreatment, sexual victimization, peer/sibling victimization and witnessing/indirect victimization. Examples of publications that used this categorization include (L. Soler et al., 2013; Bogolyubova et al., 2015; Bashir & Dasti, 2015; Richmond et al., 2009). The second most common number was six, partly due a small modification done on the “typical” 5-type-categorization where conventional crime was divided into property crime and assault (e.g. Richmond, 2009).

Table 10: Summary of Items, Categories, and Cut-Off Scores Used in Publications that Deductively Determined Poly-victimization

Study	# of items	# of categories	Sum of	Categorized	Cut Off Score PY	Cut Off Score LT/Childhood	top 10%	low vs high	Age graded
Aho 2016 ^a	33	5	items	yes	-	10	yes	no	no
Aho 2016 ^b	33	5	items	yes	-	10	yes	no	no
Alvarez-Lister 2017	36	6	items	yes	4	-	no	no	no
Andrews 2015	13	6	items	no	-	-	-	-	-
Barnes 2016	39	5	items	no	-	-	-	-	-
Bashir 2015	34	5	categories	no	-	-	-	-	-
Bender 2014	33	6	items	no	-	-	-	-	-
Betts 2013	11	5	items	yes	-	7	no	no	no
Blain 2012	16	3	categories	yes	-	>1	no	no	no
Bogolybova 2015	34	5	items	yes	-	5	yes	yes	no
Burnett 2016	57	5	categories	yes	>1	-	no	no	no
Cater 2014	35	6	items	yes	-	4	no	no	no
Cecil 2016	28	5	items	yes	-	>1	no	no	no
Chan 2013	34	5	items	yes	4	4	no	no	no
Chan 2014	38	5	categories	yes	4	4	no	no	no
Charak 2016	34	5	categories	yes	-	4	no	no	no
Chen 2016	34	7	items	yes	4	-	no	no	no
Cinamon 2014	35	6	categories	no	-	-	-	-	-
Coetzee 2017	29	5	other*	yes	>1	>1	no	no	no
Comasco 2015 ^a	34	5	items	yes	-	10	yes	no	no
Comasco 2015 ^b	15	na	items	yes	-	5	yes	no	no
Cudmore 2017	17	4	items	no	-	-	-	-	-
Cuevas 2009	32	5	items	yes	4	-	no	no	no
Cuevas 2014	17	4	items	yes	4	-	yes	no	no
Cuevas 2010	15	5	categories	yes	-	>1	no	no	no
Cyr 2012	34	5	items**	yes	4	-	no	yes	no

DeHart 2015	20	5	items**	yes	na	4	no	no	no
Elliott 2009	34	6	items	no	-	-	-	-	-
Farrell 2017	5	4	other***	-	-	-	-	-	-
Finkelhor 2017	34	7	items	yes	4	-	no	no	no
Kaslow 2008	33	6	other****	-	-	-	-	-	-
Leach 2016	4	3	items	yes	-	>1	no	no	no
Lopez 2017	40	13	items	no	-	-	-	-	-
Radatz 2017	39	14	categories	yes	-	8	no	yes	no
Radford 2013	51	7	items	yes	-	6, 13, 15	yes	no	yes
Reidy 2017	5	4	categories	yes	-	>1	no	no	no
Richmond 2009	34	6	items	no	-	-	-	-	-
Sabina 2008	27	3	items	yes	>1	-	no	no	no
Sargent 2016	26	2	other*****	-	-	-	no	no	no
Segura 2016	36	6	items	yes	-	15	yes	yes	no
Soler 2012	34	5	items	yes	9	-	yes	no	no
Soler 2013	34	5	items	yes	8	-	yes	no	no
Sterzing 2017	36	7	items	yes	10	-	no	no	no
Stimmel 2014	13	-	NC	NC	-	>1	no	no	no
Turner 2010	37	10	items	yes	-	11	yes	no	no
Turner 2012	36	5	items	yes	7	-	yes	no	no
Wolke 2017	13	3	categories	yes	>1	-	no	no	no
Wong 2016	10		other*****	*	-	-	no	no	no

*Venn diagram plotting all possible combinations of two different types of victimization. PV therefore more than one type.

**Sum of items in separate incidents

*** Repeat exposure to multiple types of violence (e.g. 2 incidents, 1 type or 2+ incidents, 2+ types)

****Interaction of Child maltreatment & IPV

*****sum of frequency. PV = cybervictimization + psychological IPV

*****sum of "early on" poly-victimization (prior to homelessness)

NC = not clear

Type of Items. While identifying patterns in the number of items and categories used is interesting and informative, the level of diversity of the victimizations measured is what is truly important to poly-victimization. Poly-victimization, by definition, requires that victimization be broadly assessed as it summarizes a condition characterized by exposure to the full range of possible victimizations. One can argue that in order to create an instrument that captures poly-victimization, the total list of items included should simultaneously ask about the following:

- (1) Direct and indirect victimizations
- (2) Physical and non-physical victimizations
- (3) Violent and non-violent victimizations
- (4) Family and non-family-based victimizations
- (5) Personal and property victimizations
- (6) Sexual and non-sexual victimizations
- (7) Completed and non-completed victimizations
- (8) Face to face and online victimizations

Few of the studies assessing poly-victimization, however, met all of these criteria.

It is important to note that explicitly asking about different types of victimization is not the same as including an item that is broad enough to capture a variety of victimizations. For example, cyberbullying might not be explicitly mentioned in a victimization measure but could be captured in a general question about verbal or relational bullying. Likewise, peer victimization might not be explicitly asked about, but could be captured by a general assault question.

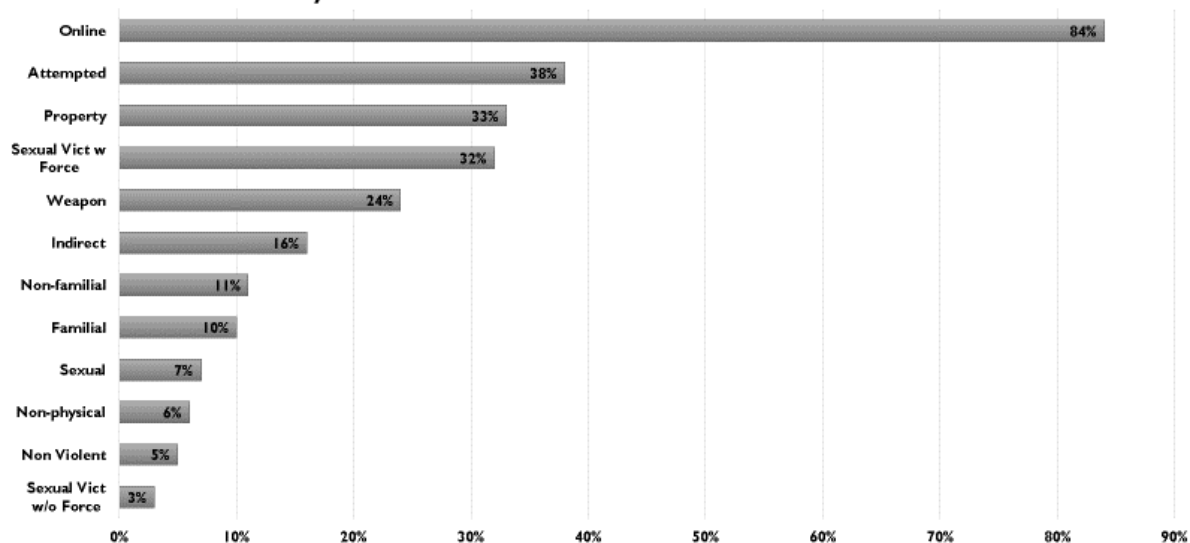
Although both types of items were coded (explicit versus implied), the results presented here are based on the types of victimizations that were explicitly asked about.

Consensus based on Characteristics of Victimization. Although few studies met all the criteria listed above, some consensus was found across victimization measures. All 61 studies included a victimization item that assessed completed, non-sexual, direct, and personal victimizations. Nearly all contained at least one item that assessed face-to-face victimization

(98.4%); violent victimization (96.7%); non-violent victimization (95.1%); sexual victimization (93.4%); and family-based victimization (90.2%). These results should be interpreted with caution; however, given that only about 50% of publications contained what are considered to be the four key types of victimizations: family-based, peer-perpetrated, sexual and indirect victimizations. These results are interesting, but a bit discouraging because the articles evaluated and summarized in this dissertation are articles that self-identified as articles that either measured or tested poly-victimization (by virtue of referencing the concept in either its title or abstract). When a broad assessment of victimization is not possible, instruments should contain at least these four types of victimizations and yet half of poly-victimization articles aren't able to meet this minimal criterion.

Diversity based on Characteristic of Victimizations. Despite the level of consensus detailed above, there were certain characteristics of victimizations that were omitted in a substantial number of articles and therefore merit mentioning. Figure 4 shows that 16% of studies failed to specifically ask about indirect or witnessing victimizations. Thirty-three percent failed to ask about property crime even though conventional crimes are among the most commonly occurring types of victimizations (Bashir & Dasti, 2015). Thirty-eight percent failed to ask about attempted victimization although “unsuccessful” exposures to violence can be traumatizing. Approximately 1 in 4 (24%) studies failed to specifically ask about victimizations involving a weapon although this has been shown to be more fear inducing and more likely to lead to physical injuries. These omissions are in stark contrast to studies using the JVQ, which includes nine different indirect victimizations items, four items related to property crime, seven items that assess physical assaults, three items that captured incomplete or attempted victimizations and at least one item that specifically references the use of a weapon.

Figure 4. Victimization Characteristics NOT Specifically Assessed In Poly-Victimization Articles Published Between 2007 and 2017



The greatest gap, however, is the exclusion of online victimization in the list of indicators used to measure poly-victimization. This was the case for 84% of the studies summarized in this review. Although expected, numbers did not improve substantially when evaluated by year of publication, indicating that even among the most recent studies (2016 and 2017) few poly-victimization publications explicitly assess online victimization. These results are problematic for several reasons. First, even though online victimization and poly-victimization have concurrently grown in acceptance among researchers between 2007 and 2017, yet few efforts have been made to cross these two areas of research. A total of 53 articles related to online victimization were published between 2007 and 2017. The publication rate for online victimization articles looked like the trend described above for poly-victimization. With only two exceptions, 2008 and 2015, the total number of online victimization articles published increased overtime. Based on a comparison of the earliest year available (2007) and the last year included in this review (2017), online victimization publications experienced a six-fold increase, while

poly-victimization articles experienced an eleven-fold increase during the same period. It's interesting to note how two sets of literature can grow concurrently and not intersect. This goes to show that even when we are focused on making efforts to be holistic in our conceptualization and operationalization of victimization, two sets of interconnected literatures can grow in a parallel, as opposed to, an intersecting manner.

Approximately 50% of articles contained at least one item that specifically captured bullying victimization. However, only four out of the 31 articles that assessed bullying explicitly assessed relational bullying (13%). Child maltreatment was among the types of victimizations most likely to be assessed, as only 4% of studies excluded a child maltreatment indicator. Data seems to suggest, however, that some of these child maltreatment measures are limited in that 1 in every 3 articles failed to include any items that captured neglect. A similar pattern is observed with sexual victimization. Ninety percent of studies assessed sexual victimization, yet 46% failed to include a measure of statutory sexual victimization defined as sexual involvement, even if consensual, with an adult at least five years older than the adolescent. This type of intimate relationship has been determined to be a punishable offense in several nations. The most prominent omission, however, is the absence of articles that specifically assess stalking as one of the possible victimization experiences used to compose poly-victimization. Only 7% of the articles summarized in this dissertation (n=4) specifically asks about stalking. This number rises to 9% (n=5) when taking into consideration any item in any measure that could capture stalking even if not specifically stated.

Empirically Determining Poly-victimization

The remaining 16% of studies made use of statistical analyses to empirically determine victimization categories or profiles and assess how victimization indicators group together. [Table](#)

11 lists the articles that empirically determined poly-victimization using latent class analysis. Table 12 lists those that empirically determined poly-victimization using cluster and latent profile analysis. Both tables detail the type of statistical technique used to determine the different categories of victimization, the characteristics of the sample used, the number of items and instruments used to assess victimization, the number of classes that best fit each model, a short description of how the classes were differentiated, the prevalence rate of each category, and the prevalence rate of poly-victims as determined by class. When available mean number of exposures by class was also listed. Tables were presented separately to accommodate limited spacing and logical presentation of the data, but results will be discussed together.

Study ID. The first column in Tables 11 and 12 simply identify the publications included in this sample of articles. Publications were identified by first author's last name and year of publication.

Statistical Technique. The second column allows us to summarize the types of statistical techniques employed. Latent class analysis was the most commonly used analytical technique, employed by 7 out of the 11 publications. Cluster analysis was used in 3 out of the 11 publications. Latent profile was used by one.

Sample. The third column summarizes the sample size, sample types, and the national context from which the different samples were drawn. We were able to observe that (1) studies that empirically determined poly-victimization are based on clinical and non-clinical samples of adolescents and adults in five different nations and that (2) sample sizes varied substantially across studies ranging from a low of 132 adolescents to a high of 14,564 adult males. Together, this information should contextualize the results that follow. This information allows us to enjoy some level of confidence given that results are based on clinical and non-clinical samples as well

as probability and non-probability samples. However, we should exercise a good deal of caution in our interpretations given that young children and many national contexts are not represented in these analyses.

Number of Items and Instruments. Like results based on studies that deductively determined poly-victimization, empirically determined studies are inconsistent in the instruments and number of items used to assess poly-victimization. Not all studies specified using a formal (and therefore empirically validated) instrument, but among those that did, the JVQ was the most commonly used. Three other instruments were cited: The Trauma History profile which contains 20 items; the Traumatic Experiences Screening Instrument which contains 19; and the Diagnostic Interview Schedule which contains 24 items. One study used multiple instruments for a total of 23 items. Two studies specified no instrument. Not surprisingly, they employed the lowest number of victimization items.

Number of Victimization Classes. This subset of publications allowed us to observe that using a variety of instruments and number of victimization items, victimization experiences were consistently grouped into three to six classes. Approximately 62% of publications statistically identified three or four victimization profiles. Less than a quarter identified five classes. The remaining 15% identified six classes of victimization.

Types and Characteristics of Victimization Classes. Most classes reported a normative group often labeled “non” or “minimally” victimized along with one or several highly victimized groups. Similar to studies that deductively determined poly-victimization, most classes were differentiated based on number of types of victimizations. However, several modifications to this framework were evident. In addition to types of victimizations experienced, studies made differentiations based on prevalence (Espelage et al., 2012), developmental stage (Armour &

Sleath, 2014a; Aho, Gren-Landell, et al., 2016; Burns, Lagdon, Boyda, & Armour, 2016), location, type of offender and whether or not a weapon was used (Turner et al., 2016).

Differentiation Classes. Looking at the intersections of each poly-victimization article with the column labeled “classes” we can observe that most classifications of victimization profiles were not mutually exclusive. Certain victimization patterns seemed to predominate, and profiles or classes were labeled according to the patterns observed by different groups of researchers following the results of their statistical analyses. The basis by which classes were differentiated varied, but classifications were often based on type and location of victimization. They also varied based on whether they emphasized the person (poly-victim) or the condition (poly-victimization). For example, the “sexual abuse/assault poly-victim” and “the physical abuse/assault poly-victim” were classes that emerged based on a study that focused on the individual and differentiated classes based on types of abuse experienced (Ford, 2010). The “predominantly crime and sibling/peer victimization” class (Charak et al., 2016) and the “high witnessing of DV poly-victimization” (Burns et al., 2016) class emerged from studies that also made class differentiations based on types of victimizations experienced but focused on describing the condition rather than the person. Categorizations based on empirical results seemed to be more complex than our deductively determined categories. Classifications were not limited to types of victimizations. Patterns based on location, perpetrator, developmental epoch and the combination of these factors also emerged yielding classes such as “home victims”, “school victims” (Turner et al., 2016), community violence poly-victim (Ford et al., 2010), acquaintance and family poly-victims (Aho, Gren-Landell, et al., 2016), and childhood and adulthood poly-victimization (Burns et al., 2016) These different classifications served to point out that poly-victimization is not a unidimensional phenomenon; that there are important

differences among poly-victims that could account for differences in adverse effects; and that that future studies, including those that deductively determine poly-victimization, need to take this into account.

Prevalence Rates The column labeled “% poly-victim” allowed us to observe that poly-victimization rates vary widely from a low of 2% based on a study using 10 victimization items (Beck, Palic, Andersen, & Roenholt, 2014) to a high of 65% based on a study using 34 victimization items. We could easily attribute this to the number of victimization items used in these studies, but number of victimizations was not a consistent predictor of poly-victimization rates. This became most evident when evaluating the studies that employed the greatest number of items. More specifically, the study using the second highest number of victimization items, 51, reported a poly-victimization prevalence rate of 18% (Turner et al., 2016) while the study using the highest number of items, 78, reported a 23% poly-victimization prevalence rate. While not linearly predictive of poly-victimization rates, these two high-item studies did relatively well at estimating the average poly-victimization prevalence rate, as the mean rate for this sample of publications detailed in Tables 11 and 12 was 25%.

Mean Number of Victimization. Mean number of victimizations was not consistently reported, but when it was, poly-victims consistently reported a greater number of types of victimizations as compared to the other classes. Mean number of victimizations ranged from 7 to 14 different types of victimizations. These results together suggest that while number of victimizations is important, it is not the only measure that we should consider when measuring, determining and evaluating poly-victimization. Our operationalization, and therefore understanding, of poly-victimization may be affected by characteristics, circumstances and contexts that we have yet to consider in our analysis of this phenomenon.

Table 11: Summary of Studies that Empirically Determined Poly-Victimization Using Latent Class Analysis

<i>Study ID</i>	<i>Statistical Technique</i>	<i>Sample</i>	<i>Number of Items & Instrument</i>	<i>Number of Classes</i>	<i>Classes</i>	<i>Classes Differentiated by</i>	<i>Prev Rate by Class</i>	<i>% poly-victims</i>	<i>Mean # of exposures</i>
Adams 2016	Latent Class	n= 3,485	20 items	5	high exposure sub-group	classes delineated by two factors: (1) number of trauma types (2) whether emotional abuse occurred (3) whether trauma was experienced in more than one developmental epoch	5%	39%	M=10
		adolescents with one confirmed trauma			multi-epoch emotional abuse subgroup		19%		M=5
		13 to 18 y/o	Trauma History Profile		emotional abuse subgroup		10%;		M=6.1
		United States			loss/violence exposure subgroup		15%;		M=5.4
Beck 2014**	Latent Class	n=2981	10 items	4	nonabuse	types of abuse experienced	87%	2%	NR
		population based sample with oversampling for former CPS cases	none specified		emotional abuse		9%		NR
		birth to 21 y/o			sexual abuse		2%		NR
		Denmark			poly-victimization		2%		NR
Burns 2016	Latent Class	n=14,564	8 items	4	low positive endorsement	type of abuse and developmental stage in which it was experienced (childhood vs. adulthood)	81%	7%	NR
		civilian, non-clinical adult male sample	none specified		high witnessing of DV and poly-victimization		5%		NR
		NR (M=46)			low endorsement across most victimizations, high adult victimization		12%		NR
		United States			childhood and adulthood poly-victimization		2%		NR
Charak 2016	Latent Class	n=346	34 items	3	Least victimization	type of victimizations experienced	13%	65%	m=4.4
		adults with history of psychological trauma	JVQ		Predominantly crime and sibling/peer victimization		22%		m=5.1
		18 to 74 y/o			Poly-victimization		65%		m=7.4
		United States & Canada							
Ford 2010	Latent Class	n=4023	24	6	sexual abuse/assault poly-vict	Type of abuse experienced	4%	33%	NR
		probability sample of adolescents	Diagnostic Interview Schedule		physical abuse/assault poly-vict		4%		NR
		12 to 17 y/o			Community Violence poly-vic		16%		NR
		United States			Assault poly-vict		9%		NR
Ford 2013	Latent Class	n=1959	19	3	poly-victim class	number of types of victimizations they experienced in their lifetime	5%	5%	m=11.4
		juvenile justice-involved youth	Traumatic Experiences Screening Instrument		Moderate adversity class		36%		m=8.9
		10 to 17 y/o			Low adversity class		59%		m=7.4
		United States							
Turner 2016	Latent Class	n=2312	51	6	non-victims	number, location, perpetrator and aggravating characteristics	26%	18.0%	NR
		probability sample of adolescents	Enhanced JVQ		home victims		8%		NR
					school victims		21%		NR
					home and school victims		21%		NR
					community victims		5%		NR
					United States		polyvictims		18%

Note: *** indicates that poly-victimization deviated from its original conceptualization. In Beck (2014), poly-victimization was limited to child maltreatment, namely physical abuse, emotional abuse, and neglect.

Table 12: Summary of Studies that Empirically Determined Poly-Victimization Using Cluster and Latent Profile Analysis

<i>Study ID</i>	<i>Statistical Technique</i>	<i>Sample</i>	<i>Number of Items & Instrument</i>	<i>Number of Classes</i>	<i>Classes</i>	<i>Classes Differentiated by</i>	<i>Prev Rate by Class</i>	<i>% poly-victims</i>	<i>Mean # of exposures</i>
Alvarez-Lister 2014	Cluster Analysis	n=132	36	3,4,5	all other classes	(1) each cluster had to include at least 10% of sample in order to enable statistical comparison across the groups	87%	13%	NR
		adolescents receiving outpatient treatment in MH centers							
		12 to 17 y/o Spain	JVQ		high polyvictimized youth	(2) clusters had to differ significantly	13%		M=13.65
Alvarez-Lister 2016	Cluster Analysis	n=100	36	5	Less victimized	Final solution was determined based on	19%	63%	m=5.95
		juvenile offenders in residential detention centers or under non-custodial sanctions			moderately victimized	(1) each cluster had to include at least 10% of sample in order to enable statistical comparison across the groups	18%		m=7.11
		14 to 17 y/o Spain	JVQ		community violence polyvictims	(2) clusters had to differ significantly	30%		m=11.33
					acquaintance and family polyvictims		21%		m=11.51
					highly polyvictimized		12%		m=14.17
Espelage 2012**	Cluster Analysis	n=992	23	4	non or minimal victims	Number of types and prevalence of victimizations experienced	70%	5%	NR
		early adolescents in middle school			relational victims		7%		NR
		10 to 15 y/o	Multiple Instruments		homophobic name-calling victims		8%		NR
		United States			peer poly-victims		5%		NR
Armour 2014**	Latent Profile	n=318	78	3	life-course poly-victimization	Type of victimization(s) predominantly experienced and developmental stage in which experienced (adolescence and/or adult)	23%	23%	NR
		university students	CTS-2		witnessing parental victimization		15%		NR
		18 to 48			psychological victimization only		62%		NR
		Ireland							

Discussion

The first portion of this dissertation consisted of a literature review that systematically summarized the ways in which poly-victimization has been studied since its formal introduction into the field in 2007. Sixty-one different samples in 59 published articles were considered to answer questions regarding relationships tested, populations evaluated, research designs employed, instruments used, and operationalizations established. The objective of the systematic literature review was to summarize the literature on poly-victimization in order to make recommendations to the research community regarding the imminent research agenda. Most studies deductively operationalized poly-victimization by summing the number of victimization indicators to determine a summary poly-victimization score. Without exception, studies included victimization indicators that represented direct, personal, face to face victimization experiences that did not involve a weapon in their measure of poly-victimization. A substantial proportion of studies, however, failed to assess online victimization (84%); attempted victimizations (38%) and property crimes (33%) in their poly-victimization measures. Most studies assessed child maltreatment (96%) and sexual victimization (90%), but a substantial proportion failed to specifically address statutory sexual victimization (56%); witnessing intimate partner violence (36%) and neglect (33%). Not surprisingly, majority of studies were quantitative (82%), cross-sectional (71%), self-report surveys (62%) that employed a non-probability (67%) sample.

Results showed that there is no real consensus regarding what constitutes a poly-victim and what doesn't. Variations were noted at conceptualization and therefore at operationalization. Number of items used to assess poly-victimization varied substantially, but more importantly, cut-off scores for past-year and lifetime victimization did not vary enough. Several studies operationalized poly-victimization as experiencing more than one type of victimization, which is

perhaps the most deviant operationalization of the term. The key to poly-victimization is that it captures a variety of victimization exposures in a variety of contexts. Diminishing the intended complexity of the term to a measure of multiple (aka more than one) victimization is a mistake.

These are significant methodological issues given that subsequent analyses, and therefore research results, are dependent upon these operationalizations. Different operationalizations of the same concept can lead to differences in prevalence rates and therefore practical debates about how to distribute treatment resources. Trend data also becomes problematic as we are not able to confidently determine if a given social problem or condition is increasing or decreasing over time. The lack of consensus regarding the best way to measure and operationalize poly-victimization, or any concept for that matter, can make it difficult to reconcile the literature. More important than that, contradictory or mixed results do not allow practitioners and policy makers to make decisions confidently. We are at a point where researchers, practitioner, and policy makers are committed to making decisions based on evidence-based practices. But what if the evidence is full of contradictory findings because of methodological issues? Efforts need to be made to address this issue because it is not just an academic exercise, but a real condition that affects real-world decisions. Accurate comparisons across studies and over time can only be made if concepts are conceptualized and operationalized in similar ways.

Albeit rare, researchers have proposed an alternative way to conceptualize and operationalize poly-victimization and complex trauma, which some researchers use as synonyms for each other. This alternative way takes into consideration the co-occurrence of multiple types of victimizations and trauma along with the nature of the specific trauma type (Wong, Clark, & Marlotte, 2016). In order to make this argument, the authors referenced a study that reported stronger associations with mental health problems when the other types of victimizations co-occur with child sexual abuse (Gustafsson, Nilsson, & Svedin, 2009). Both studies emphasize

the importance of taking into consideration the *quality* and the *quantity* of the traumatic events experienced. This line of argument would be supported by hypotheses based on betrayal trauma and differential association theories. Both of these perspectives would argue that certain characteristics of the different types of trauma or victimizations experienced are important and yet are ignored in the conceptualization and operationalization of poly-victimization. Betrayal trauma would argue that victimizations endured at the hands of a loved one would be more impactful than victimizations perpetrated by a stranger. Differential association theory, which specifically addresses the likelihood of engaging in delinquency, would argue that victimizations perpetrated early on (priority); multiple times (repeated) and over an extended period of time (duration) by individuals we hold in close regard are more influential predictors of delinquency, the adverse outcome of interest in this dissertation. While poly-victimization has accumulated a good amount of support as a strong predictor of a variety of adverse outcomes, moving forward efforts should be made to evaluate differences among poly-victims based on characteristics of their victimization exposure as potential predictors or moderators of adverse effects.

Omitted Victimization. Results also showed that even among the studies that broadly assess victimization certain characteristics of victimization were omitted in our current measures of poly-victimization. The most prominent and important omission was that of online facilitated victimization, 82% of articles omitted this type of exposure. Future studies should focus on including items that specifically ask about online victimization.

Online victimization can be a potent ingredient in our understanding of “safe spaces”. Poly-victimization has been shown to be among the strongest predictors of anxiety, depression, and PTSD, (Aho, Proczkowska-Bjorklund, & Svedin, 2016; Andrews et al., 2015). Some researchers have tried to explain this by referencing the idea that poly-victims are worse off because they have no safe space. Research results show that poly-victims are more likely to be

concurrently victimized at home by a parent, at school by a bully, in their neighborhood by a gang member. While these exposures to violence can “technically” be warded off by closing the door to private spaces, it seems online victimization has no borders. It can penetrate any physical space and reach anyone just about anywhere. This additional accessibility seems to be an important component to the conversation surrounding safe spaces in the context of poly-victimization, but it cannot be addressed if it’s not measured.

Moving forward additional efforts should be made to more consistently and comprehensively measure and operationalize poly-victimization. Operationalization should not be based on the top 10% because cut-off scores would vary with every sample. The goal at this point should be to move towards making reliable comparisons across study and cultural context. Guidelines should be created that take into consideration a combination of factors so that we can simultaneously exercise consistency and flexibility in determining what constitutes a poly-victim. To start, factors that should be considered are: the child’s age, the timeframe of inquiry (past-year, lifetime, or childhood); and number of victimizations being assessed. Future studies, and hence, the field, could also benefit from incorporating online, attempted and weapon-involved incidents of victimization in our measures of poly-victimization. Incorporating specific items that assess relational bullying, neglect and statutory sexual victimization are also encouraged. Efforts should be made to study poly-victimization using longitudinal designs, probability samples, and multiple informants to assess the true victimization profile of our children and youth.

A 2016 study that determined poly-victimization by way of cluster analysis argued that the empirical approach of determining poly-victimization was needed precisely because the deductively determined approach was plagued by too much variation. The authors argued that the use different instruments and methods to determine poly-victimization makes it difficult to

reconcile the literature and make meaningful comparisons (Alvarez-Lister et al., 2016). While partially in agreement with this statement, I would have to argue that studies that empirically determine poly-victimization are similarly challenged by methodological inconsistencies such as varying number of items and omitted victimization categories. The issue is more fundamental than the authors' argument seems to suggest. The inconsistencies stem from the fact that as a field we have yet to come to an agreement as to what poly-victimization is. This became clear when we summarized the myriad ways poly-victimization has been operationalized, regardless of whether it was deductively or empirically determined. Before we can address the issue of instrumentation, we have to be able to come to a consensus in regard to the operationalization of poly-victimization.

Sum of Items vs. Cut-Off Scores. One of the issues that need to be reconciled regarding the operationalization of poly-victimization is whether the field should focus on evaluating the adverse effects of poly-victimization by using a continuous (sum of items) measure or a dichotomous measure (based on a pre-determined cut-off score). Given the inconsistencies documented in the number of items used across studies and more specifically the ways in which cut-off scores have been determined, it is difficult to advocate for one method or the other. Rather, the recommendation is to use the most appropriate version of the variable given your specific objectives. If the objective is to take advantage of statistical power, then creating an index by summing the victimization items should be a more appropriate course of action. If the objective is to capitalize on practical advantages (i.e. clarity, ease of use for practitioners), then the cut-off version should be used. Both methods of operationalizing poly-victimization should be used with caution; both should be taken into consideration when interpreting results; and both need continued empirical assessment.

Limitations and Recommendations for Future Literature Reviews

Predominantly JVQ. So much of the literature included in this review is based on the results of studies that measured poly-victimization using the JVQ that significant and important differences may be masked by the influence those studies are having on the overall results. Future literature reviews should focus on separating and comparing JVQ based results with studies using other victimization instruments.

Beyond Methods and Into Results. This literature review focused predominantly on summarizing the methodological factors surrounding the poly-victimization research. A worthwhile effort given that this has not been done since its introduction into the field more than 10 years ago. Moving forward, however, a second literature review should be conducted, but this time with an emphasis on the results, not the methods. It would be beneficial to researchers, practitioners and students alike to determine if and how the different operationalizations of poly-victimization have a substantial effect on our overall understanding of the same. We can logically deduce that the definitional inconsistencies documented in this systematic review are problematic for the reasons previously discussed, but that is really an empirical question that can answer by way of another systematic literature review. Closely related to this question is the following: Are we able to identify the most victimized youth using a valid, but shortened and practical instrument?

Not exhaustive. This literature review is also limited in that it summarizes a sample of studies published between 2007 and 2017. Efforts should be made to systematically assess all the publications that contain the terms poly-victim or poly-victimization in their titles and abstract. Consideration should also be given to identifying studies that don't meet this inclusion criteria but do in fact measure and/or evaluate poly-victimization. This can be achieved in the following ways:

1. By reviewing the measures sections (not just the abstracts) of all studies that were identified via the original search strategy.
2. By reviewing the works cited pages of the articles that were included in this review
3. By doing literature searches by known poly-victimization scholars
4. By conducting literature searches using different databases.

Despite these limitations, this systematic literature review contributes to the field by being the first attempt to systematically summarize and analyze the poly-victimization literature. This review identified, summarized, and discussed descriptive as well as inferential studies. It focused on identifying the gaps in the literature, so the research community can more effectively channel its resources. It detailed the samples, data collection methods and designs used in order to make recommendations about what samples, methods and designs can best move the field forward. Most importantly it was able to systematically document a fundamental point of contention that has affected and will continue to affect our ability to understand and respond to poly-victimization, namely the field's inconsistencies in the conceptualization and operationalization of the term. One of the most important findings of this dissertation pertains to the differences observed *within* poly-victims. Results are clear in demonstrating that poly-victimization is not unidimensional. The field cannot move forward without efforts to look within these groups.

PART II

Chapter 4: Secondary Data Analysis-Methods and Descriptive Statistics

Introduction

This portion of the dissertation is designed to contribute to the field by evaluating the effect of poly-victimization on delinquency. As detailed in Part I, studies that have focused on testing the adverse effects of poly-victimization have predominantly evaluated its effect on mental health related outcomes. In response to this finding, the analyses presented in Part II emphasize behaviorally-based outcome measures.

Part I focused on summarizing the poly-victimization literature to inform the research community about the current state of knowledge and make recommendations that will help advance our understanding of poly-victimization. Part II will focus on evaluating the relationship between poly-victimization and delinquency and providing policy and practice recommendations that would be most beneficial to practitioners and policy makers concerned with improving child well-being and reducing juvenile delinquency.

This part is split into four chapters. Chapter 4 focuses on describing the design, sample, instrument, and measures used to analyze the relationship between poly-victimization and delinquency. Descriptive statistics are presented and discussed for the victimization and delinquency items used to construct the main independent and dependent variables. Description and justification for control variables are also provided. Chapter 5 focuses on analyzing the relationship between poly-victimization and different types of delinquent behaviors. Chapter 6 focuses on evaluating the unique effect of poly-victimization on delinquency in general. Lastly, chapter 7 discusses the policy and practice implications as well as the strengths of limitation of the current study.

Research Design

The analyses detailed in the next few chapters are based on the aggregation of three iterations of the National Survey of Children’s Exposure to Violence (NatSCEV). NatSCEV is a cross-sectional, U.S. national telephone survey of children, youth, and their parents conducted in English and Spanish, approximately every three years, starting in 2008. Table 13 details some of the general study descriptives, such as sample size and respondent type, for the total sample and then separately for NatSCEV1 (2008), NatSCEV 2 (2011), and NatSCEV3 (2014). While these summary statistics have been previously presented in different articles, they are presented here in a summative manner for the reader’s convenience and as a means to assess the appropriateness of aggregating the three separate data collection efforts.

Sample Size. The aggregate dataset includes the victimization experiences of a representative sample of 13,052 children and youth between the ages of 1 month and 17 years. It does not appear that any single year is over-represented as sample size was about evenly distributed across iteration. Each dataset has a sample size of 4,000 or above and makes up about a third of the entire sample. The first two iterations make up approximately 35% of the full sample. The last iteration makes up the remaining 30%.

Language. Although the survey was available in both English and Spanish, the overwhelming majority were conducted in English. Overall, slightly less than five percent of surveys were conducted in Spanish. Pattern seemed to persist across iterations, as the percentage of surveys conducted in Spanish ranged from a low of 3.5% in 2011 to a “high” of 6.1% in 2008.

Sampling Technique

List assisted-random digit dialing was used to randomize selection at the household level. While all iterations used residential telephone numbers to establish a sampling frame, the second

Table 13. Study Descriptive for a National Sample of 10 to 17-year-olds by Iteration of the National Survey of Children's Exposure to Violence

		NatSCEV-1	NatSCEV-2	NatSCEV-3
Years Data Collected	Overall	2008	2011	2014
Sample Size (n)	13052	4549	4503	4000
Percentage	100.0	34.8	34.5	30.6
Language				
English (%)	95.3	93.9	96.5	96.0
Spanish (%)	4.7	6.1	3.5	4.0
Sampling Frame				
		Residential Only	Residential & Cellular	Residential & Cellular
Race/Ethnicity				
White, non-Hispanic (%)	65.5	53.6	68.0	76.4
Black, non-Hispanic (%)	13.9	20.5	11.9	8.5
Hispanic (%)	15.1	20.7	13.7	10.3
Other (%)	5.5	5.3	6.4	4.8
Household Financial Resources				
More than \$100,000 (%)	25.9	18.6	25.2	34.8
\$50,000 to \$100,000 (%)	33.0	31.5	32.6	35.2
Less than \$50,000 (%)	41.1	49.9	42.2	30.0
Public Assistance (%)	24.1	28.4	24.7	18.6
Number of Children in Household				
One (%)	37.4	38.8	39.1	33.9
More than one (%)	62.6	61.2	60.9	66.1
Parental Interview				
Biological Mother (%)	66.8	67.4	67.4	65.4
Biological Father (%)	21.8	20.8	20.4	24.5
Grandmother (%)	4.5	4.6	4.2	4.4
Respondent Type				
Proxy Interviews (0 to 9-year-olds)	51.2	53.9	48.7	51.0
Self-Reports (10 to 17-year-olds)	48.8	46.1	51.3	49.0
Response Rate (%)				
		50.7	44.6	29.4
Number of Victimization Items				
		48	52	58

and third made additional efforts to obtain participants using cellular telephone numbers as well. For the 2008 sample, telephone exchanges in areas heavily populated by Blacks and Hispanics were oversampled to obtain a sizable number of minority and low-income respondents, which was intended to facilitate subgroup comparisons. For the 2011 and 2014 samples, minority representation was obtained by constructing a sampling frame using four different sources: (1) an address-based sample, (2) a pre-screened sample of prior survey participants, (3) a sample of residences with children, and (4) a cellular phone based sampling frame (Turner, Finkelhor, Hamby, & Henly, 2017).

Race/Ethnicity. Overall, 65.5% of the sample was White, non-Hispanic, 13.9% were Black, non-Hispanic, 15.1% were Hispanic and the remaining 5.5% were other, non-Hispanic. This pattern was relatively consistent across iteration, with other, non-Hispanic consistently making up the smallest proportion of the aggregate sample. Blacks and Hispanics were relatively close in proportion across iterations with less than two percentage difference across sample. The sampling technique used in the first iteration seemed to have captured the greatest proportion of Blacks and Hispanics, each were approximately 21%.

Household Income. Overall, it seems as if a wide spectrum of household financial circumstances is represented in this data set. Just over a quarter of participants reported earning more than \$ 100,000 per year, 33% earned between \$50,000 and \$100,000. The remaining 41.1% earned less than \$50,000. Given that special efforts were made to capture low-income households, it is interesting to see that the percentage of economically unstable houses (defined as those that received public assistance) declined with each iteration, from 28.4% in 2008 to 18.6% in 2014. The opposite was true for households who reported more than \$100,000. The proportion of households that fit this criterion seemed to increase with each iteration, from 18.6% in 2008 to 34.8% in 2014. The largest percentage change, however, was for households

that earned less than \$50,000 per year. For this category, the difference was just under 20 percentage points. Overall, these patterns show that our most current data is composed of a smaller proportion of low-income households.

Within household selection of children was randomized by selecting the child with the most recent birthday. The probability of choosing any single child was therefore dependent on total number of children living in the household. Weights were subsequently applied to adjust for differences in probability of selection for children living in households of different sizes.

Overall, most participating households had one (37.4%) or two (36.5%) children. A small, but important proportion of the sample had between 3 and 8 children living at home.

Data Collection

Specially trained interviewers in an experienced research firm initially conducted a short parent interview lasting approximately 10 minutes with the parent or guardian most familiar with the selected child. The purpose of this parent interview was to obtain information on (1) family demographics, (2) the parent's perception of violence in the child's school, neighborhood, and city; (3) issues surrounding residential stability, (4) psychiatric diagnoses for the child and other family members, (5) the child's school-performance, and (6) his/her involvement in non-academic programs. Once consent and assent were obtained, a second, in-depth interview was conducted. Children over the age of 10 self-reported (1) their lifetime and past-year victimization experiences, (2) their mental health symptoms in the past month; (3) their delinquent behaviors in the past year; (4) their lifetime and past year adversities, (5) their self-concept, (5) and their family and peer social support. Proxy-interviews were conducted for children nine and under. Parent respondents were not randomized, but rather selected based on who was most familiar with the child's day-to-day activities

Initial Parent Interviews. Approximately 88.6% of parent interviews were conducted with a biological parent. Biological mothers were by far the most common respondent making up 66.8% of caregiver interviews overall. Biological fathers made up approximately 21.8% of adult-caregiver interviews. The third most common category, grandmother, was a very distant third with just under 5% of all interviews. This pattern seemed to persist across iterations.

Respondent Type. While chi-square tests showed significant differences in type of respondent overall and across iterations, it is important to note that the differences were relatively small. Overall, 48.8% of interviews were based on youth's self-reports (n=6366). The remaining 51.2% were proxy interviews (n=6686). Table 13 shows a curvilinear relationship across iterations, with proxy interviews being slightly more prevalent in 2008 and 2014. Despite this fluctuation, percentages tended to center around the 50% mark. Proxy interviews ranged between 48.7% and 53.9% while self-reports ranged from 46.1% to 51.3%.

Proxy Interviews. Despite concerns surrounding this data collection method, comparisons between the proxy reports of 9-year-olds and the self-reports of 10-year-olds found no evidence of systematic bias on the part of parent responders in the NatSCEV. Differences were only found in 2 out of the 16 comparisons made, which the authors argue could reflect actual, as opposed to reporting, differences between the parents of 9-year-old respondents and the 10-year-olds themselves (Finkelhor, Hamby, et al., 2005).

Participant responses were electronically recorded at the time of the interview using a Computer Assisted Telephone Interviewing (CATI) system, which has been shown to provide quality control benefits, including reductions in recording errors (D. Finkelhor, R. K. Ormrod, et al., 2007c).

Respondents were asked to identify the types of victimizations they have experienced during their lifetime and in the past year, based on a yes/no response system. The number of

victimization screener items ranged from 48 in 2008 to 58 in 2014. If they responded affirmatively to any item, they were subsequently asked a series of questions regarding their most recent victimization experience. Follow-up questions inquired about location of the incident (home, school, other); characteristics of the perpetrator (age, gender, acquaintance, stranger); frequency and severity of the victimization (injury sustained, medical attention needed); presence or absence of fear; and the use of a weapon, to name a few. It also asked about how old the participant was at the time it occurred and whether a parent, teacher, or police officer found out about the incident.

Response Rates. Response rates seemed to decrease over time despite effort to enhance sampling strategy in the latter two iterations. Table one shows that response rate for the 2008 sample was 50.7%, 44.6% for the 2011 sample and 29.4% for the 2014 sample.

Instrument

Juvenile Victimization Questionnaire (JVQ). NatSCEV uses an enhanced version of the Juvenile Victimization Questionnaire (JVQ), a 34-item inventory of behaviorally specific, criminal and non-criminal childhood victimizations of interest to law enforcement, school personnel and child protection agencies. The instrument was created to overcome a significant methodological limitation in the childhood victimization literature, the lack of a comprehensive instrument. To overcome the tendency to focus on a limited range of victimizations, the JVQ includes violent, property, familial, sexual, school-based, acute, pandemic, and extra-ordinary victimizations that occur in the respondents' home, school or community. It covers victimizations unique to childhood as well as victimizations that occur to youth and adults (Sherry L Hamby, Finkelhor, Ormrod, & Turner, 2004).

Validity and Reliability. The JVQ has been extensively reviewed and tested. It has been cognitively tested by children between the ages of 6 and 15 and found to be appropriate with

children as young as eight (Finkelhor, Hamby, et al., 2005; Sherry L Hamby et al., 2004). It has been focused grouped with parents and children; reviewed by child victimization and child development experts; tested for reliability using test-retest technique; and tested for validity based on its ability to predict trauma symptoms (Sherry L Hamby et al., 2004). Following these tests, it was found to be both valid and reliable (Finkelhor, Hamby, et al., 2005). To date the instrument has been translated into several languages including Spanish, French, Russian, Chinese, Mandarin, Urdu, and Danish.

Victimization Categories. The original 34 items are generally grouped into five aggregate categories: conventional crime, child maltreatment, peer and sibling victimization, sexual victimization and witnessing/indirect victimizations. Although other combinations have been noted in the literature. The conventional crime category is composed of nine different types of victimizations and includes robbery, theft, destruction of property and threats with and without a weapon. Maltreatment is composed of four types of victimizations and includes physical abuse, emotional abuse, neglect and abduction at the hands of a caregiver. Peer/sibling victimization is composed of six types of victimizations and includes being beaten, chased, grabbed, teased or emotionally bullied by a sibling, peer, boyfriend/girlfriend and/or member of a gang. Sexual assault is composed of seven different types of victimizations and includes any unwanted sexual interaction, completed or attempted, by an adult or peer. Witnessing is composed of 9 different types of victimizations indirectly experienced including inter-parental violence, sibling child physical abuse, other physical assaults with and without a weapon, burglary, murder, war and civil unrest.

Enhanced JVQ. The enhanced version of the victimization questionnaire used in each of the NatSCEV iterations has additional items that supplement the original 34-item instrument.

NatSCEV 1 contains an additional 14 items for a total of 48 victimization screeners. The additional 14 screeners consist of three items related to indirect exposure to community violence, including robbery, threats with a weapon, and sexual victimization. Six additional items captured indirect exposure to family violence, including threats, psychological abuse and physical assault. These questions applied to any adult caretaker such as grandparents, foster parents, and parents' significant other, not just biological or adoptive parents. Two additional school-based indirect violence exposure items measured bomb threats and property damage. Two online victimization items were also added in; one item involved online threat or harassment (spreading mean words or pictures) and the other, online sexual solicitation. NatSCEV 2 introduced five additional child maltreatment items that assessed neglect in more detail; two additional peer/sibling victimization items that assessed relational bullying; and one additional online victimization that assessed harassment via cell phone or texting. NatSCEV 3 introduced a series of victimization items that more specifically assessed bullying. This dissertation will analyze the 44 different victimization items that are consistent across all three iterations. These 44 items and their categorizations will be discussed further in the measures section.

Participants (10 to 17-year-olds)

Delinquency. Juveniles were the focus of this dissertation for several reasons. Not the least of which was the dependent variable of interest. This study is predominantly focused on expanding our understanding of the adverse effects of poly-victimization by focusing on delinquency. That said, it's logical to focus on the subset of the population that this phenomenon most applies to. To further support this point, research has shown that as children grow older the effect of violence exposure is more likely to be in the form of risky, delinquent, or law-breaking behaviors (Thornberry et al, 2004).

Self-report. As it pertains to data collection methods, I specifically wanted to focus on the group of respondents who were able to self-report their victimization experience and delinquency involvement. In the NatSCEV, that specifically applies to youth between the ages of 10 and 17.

Sample Characteristics

Age, Gender, and Race. Table 14 details the demographic information for the subset of 10 to 17-year-olds analyzed in this dissertation. Mean age for the sample was 13.8 with a standard deviation of 2.22. The modal age category was 16, which was composed of 15.6% of the sample. This category was followed somewhat closely by 15 and 17-year-olds who made up 14.4% and 13.6% of the sample, respectively. Boys made up 51% of the sample.

Approximately 1 in every 3 respondents (67.8%) were White, non-Hispanic. Blacks and Hispanics were about evenly distributed, each made up approximately 14% of the sample.

Household Income and Financial Assistance. The majority of households selected for analysis in this dissertation (62.4%) reported a total household income of more than \$50,000. Approximately 24% earned between \$20,000 and \$50,000 per year. The remaining 14% reported earning less than \$20,000. Nineteen percent of this sample reported receiving financial assistance in the form of WIC and Temporary Aid to Needy Families. This is slightly lower than the rates reported by the Census Bureau, which range from 18.6% in 2009 to 21.3% in 2012. As it pertains specifically to our sample, it was interesting to note that while most households that earned less than \$20,000 a year (73%) reported receiving some type of government assistance, approximately 1 in every 4 households did not. This is somewhat troubling given that these are homes known to have a least one child present. Despite these rates, modal household income for this sample was relatively high. Approximately 1 in every 3 households (29%) earned more than \$100,000 per year. Median household income was between \$50,000 and \$75,000 per year.

According to the Census Bureau median household income was \$51,726 for 2008, \$50,502 for 2011, and \$53,657 for 2014 (the years of data collection in this study).

Educational Attainment. Twenty-four percent of parents reported completing a bachelor's degree, making this the modal category for parental educational attainment. Education level, however, was widely dispersed, with approximately 6% of parents not completing high school, some not completing grade school. When we evaluate the opposite end of the spectrum, however, we can see that this sample seems to be more educated than the US population. Seven percent of parents reported completing a doctoral degree. Yet, less than 2% of the US population has attained that level of education according to the 2009 American Community Survey. This pattern was consistent across other categories of highest education completed. Approximately 7% of the US population has completed a master's degree, but almost twice as much of our sample (13%) achieved this. Also, while 17.6% of our population completed a bachelor's degree, 24% of our sample achieved the same level of education.

Parental Employment Status. Slightly more than half (55%) of parents were employed full time and approximately 14% were employed part-time. An additional 14% were homemakers. The remainder were either unemployed, looking for work, in the military, students, retired or disable, too ill to work.

Household Composition. Most households (66%) were composed of two-biological or adoptive parents. Single parent households were a distant second at 20%. Followed by households with a step-parent at 9%. Approximately 55% of households had more than one child in the home, 38% of which were older than the child participant. Three out of every four household reported less than three children.

Gender differences. Significant gender differences by age, household income, parental-educational attainment, parental employment status, and household composition were not found.

Discussion

This section predominantly focused on detailing the methods used to collect the data analyzed in part II of this dissertation. Efforts were made to examine three iterations of the NatSCEV to gauge whether it was appropriate to aggregate these three different data collection efforts. While variations were noted in sample descriptive statistics, overall analyses showed that aggregation, and therefore use of the pooled data set, was appropriate. This was determined to be the case predominantly because the population from which the samples were pooled, and the data collection methods used were consistent across iterations. Differences in sampling techniques were noted from the first iteration to the second and third, but these differences were intended to obtain a more representative sample. Improved sample representation was attempted by moving away from an exclusively land-line based sampling framework to one that is supplemented by cell phone numbers. That said, consistency in methodology would have been a greater limitation than the small sampling technique variation noted here. The changes implemented in the 2011 and 2014 iterations were designed to respond to the documented changes in household accessibility. That is arguably a strength rather than a methodological limitation.

Sampling descriptives also seemed to substantiate this point. Although measures of household financial stability varied, sample size, language of data collection, and racial/ethnic representation were relatively consistent across iterations. Consistency across sample size was important because it shows that no single iteration, and therefore year of data collection, had a disproportionate influence on the results presented in the following chapters. Consistency across language of data collection was also important because it speaks to consistency in the actual samples obtained, not just the strategies used to obtain them. Lastly, consistency across racial/ethnic distribution was important because it speaks to sample representativeness over time.

These data points together substantiate consistency across iterations and therefore verify the appropriateness of aggregating, analyzing, and reporting as one dataset. This is arguably the case in spite of the fact that data was collected across the span of seven years, wherein social, economic, and demographic changes are likely to have occurred. Overall, this sample seemed to be more educated and more financially stable than the general population, but it is still based on three representative samples of youth in the United States.

Table 14 Demographic Characteristics of Subsample of 10 to 17-Year-Olds

	All (n=6366)	
	n	%
Age (mean, SD)	(13.8, 2.22)	
Gender		
Male	3248	51.0%
Female	3118	49.0%
Race/Ethnicity		
White, non-Hispanic	4298	67.8%
Black, non-Hispanic	842	13.3%
Other, non-Hispanic	307	4.8%
Hispanic, any race	893	14.1%
Total Household Income		
Less than \$20,000	834	13.9%
\$20,000 to \$50,000	1422	23.7%
More than \$50,000	3738	62.4%
Receiving Financial Assistance	1207	19.0%
Parent's Highest Education Level Achieved		
Less than high school	413	6.5%
HS grade/GED	906	14.2%
Technical/Vocational school	176	2.8%
Some College	899	14.1%
Associate degree	676	10.6%
Bachelor's degree	1532	24.1%
Some graduate school	160	2.5%
Master's degree	1135	17.8%
Doctoral degree	466	7.3%
Parental Employment Status		
Employed full-time	3521	55.3%
Employed part-time	882	13.9%
In the military	22	0.3%
Unemployed and looking for work	330	5.2%
Retired	213	3.3%
Student	103	1.6%
Homemaker	909	14.3%
Disabled or too ill to work	252	4.0%
Other	130	2.0%
Family Composition		
Two-parent household	4179	65.6%
Parent and step-parent	616	9.0%
Single parent	1297	20.4%
Other adult	294	4.0%

Lifetime Victimization

NatSCEV collects data on both lifetime and past-year victimization. The analyses presented here, however, will mainly focus on lifetime victimization. This is predominantly the case because this work is intended to evaluate the effect of lifetime poly-victimization on past-year delinquency. This brings up a significant methodological issue, causal ordering, and a significant empirical issue, the bi-directional relationship between victimization and delinquency. As it pertains to causal ordering, analyses are based on three separate cross-sectional studies drawn from the same population, which allow us to evaluate and discuss trends, but that is not the same as following a panel of children over time. The issue of causal ordering cannot be avoided here, but we can simulate a longitudinal enquiry by asking the participants about *lifetime* victimization and *past-year* delinquency. As it pertains to the issue of bi-directionality, studies have indeed shown that victimization and delinquency mutually affect each other, but there seems to be more evidence supporting the idea that victimization has a greater effect on delinquency than the other way around. This is mainly because victimization tends to preclude delinquency (Carlos A Cuevas, Finkelhor, Turner, & Ormrod, 2007).

Any Lifetime Victimization. Approximately 90% of our sample reported experiencing at least one type of victimization, 82% of which experienced it in the past year. Significant gender differences in victimization rates, with 91% of boys and 88% of girls experiencing at least one type of victimization. Those who were victimized, reported an average of 7.9 different types of childhood victimizations (SD 6.1). Number of victimizations experienced ranged up to 38 different types, indicating that for some youth, victimization is a way of life. Lifetime victimization was positively skewed. Median number of victimizations was six.

Tables 15 and 16 list each of the victimization items assessed along with its prevalence rate (overall and by gender) for our sample of 10 to 17-year-olds. Table 15 summarizes *direct*

victimization exposures while Table 16 details *indirect* victimization exposures. Each victimization screener is grouped into the following victimization categories to facilitate subgroup comparisons: property crimes, physical assault, child maltreatment, sexual victimization, kidnapping, bullying, online victimization, indirect exposure to family violence and aggression, indirect exposure to school violence and threat, and indirect exposure to community violence.

1. *Property crime victimization* is based on four items (c1, c2, c3, w5) and includes burglary, robbery, personal theft and vandalism. Property crime victimization was the second most common type of direct violence exposure with an overall lifetime rate of 56.7%. Overall, boys were more likely to be victims of property crime than girls. Approximately 60% of boys and 54% of girls reported such an exposure. About half (51.3%) of these participants reported an incident within the past year indicating that this type of violence exposure is not a “thing of the past”. Boys were significantly more likely than girls to report experiencing a robbery, a theft, and an incident of vandalism, but not a household burglary. Boys and girls were about equally likely to experience this type of victimization, roughly one in every four. Theft was the most commonly occurring property crime victimization (34%) and the type of victimization most likely to have occurred in the past year.
2. *Physical assault* is based on eight items (c4, c5, c6, c7, c9, p1, p2, p3, p6) and includes attempted and completed assaults by adults, peers, siblings, boy/girlfriends and a group of kids or gang. Physical assault was the most commonly occurring direct violence exposure for both boys and girls. Seventy-four percent of boys and 59.3% of girls reported ever experiencing a physical assault. Approximately 2 out of every 3 (64.3%) experienced one such incident in the past 12 months. Boys were constantly more likely than girls to report experiencing each of the eight different types of assault assessed in

this study. The most commonly occurring physical assault was at the hands of a sibling (48.6%). Dating assault was among the least likely to occur overall, but the most likely to have occurred in the past year. Approximately, 63% of the participants who reported experiencing a dating assault, experienced the most recent incident within the past 12 months.

3. *Child maltreatment* is based on three items (m1, m2, m3) and includes child physical abuse, psychological abuse and neglect by parent or guardian. Overall, 25.6% of participants reported ever experiencing child maltreatment. Unlike property crime victimization and physical assault, girls were overall more likely to report maltreatment at home, 29% of girls as compared to 22.4% for boys. As it pertains to gender differences by specific types of maltreatment, girls were more likely than boys to report psychological aggression and neglect while boys were more likely than girls to report child physical abuse. Overall, psychological aggression was the type of maltreatment most likely to have occurred in the past 12 months.
4. *Sexual victimization* is based on seven items (s1, s2, s3, s4, s5, s6, s7) and includes sexual assault, sexual harassment, flashing and statutory rape by adults and peers. Approximately 23% of the sample reported ever experiencing a sexual victimization, 68% of which experiencing one such incident in the past year. Gender differences were found for each of the types of sexual victimizations assessed, except for flashing. In this case, boys and girls were about equally likely to experience such an incident, 8% ever, and 5% in the past year. All other forms of sexual victimizations; fondling, forced sexual contact, sexual harassment, and statutory sexual victimization were significantly more likely among girls, as compared to boys.

5. *Kidnapping* is based on two items (c8, m4) and includes stereotypical kidnapping and custodial interference. Kidnapping was the among the least commonly occurring types of direct victimizations, applicable to approximately 6% of 10 to 17-year-olds in this study. Custodial interference was more common than stereotypical kidnapping for both boys and girls. Both types of exposures were among the types of direct victimizations least likely to have occurred in the past year. Albeit rare, stereotypical kidnapping was more common among girls than boys. No gender differences were found for custodial interference.
6. *Bullying* is based on two items (p4, p5) and includes physical and emotional bullying. Bullying was the third most commonly occurring type of direct victimization with approximately half of respondents (51.5%) affirming ever experiencing this type of victimization. Approximately half of these respondents, 49.8%, stated they had experienced one of these incidents in the past year. Overall, girls were significantly more likely to report being bullied, but this gender difference was predominantly based on differences in emotional/verbal bullying, as no gender differences were found for physical bullying.
7. *Online victimization* is based on two items (int1, int2) and includes harassment and sexual solicitation. Online victimization was relatively rare, applicable to approximately 12% of the sample, but very likely to have occurred in the past 12 months. Approximately 2 out of every 3 participants who reported an online victimization, stated that the most recent incident occurred in the past year. Girls were significantly more likely than boys to report experiencing both types of online victimizations.
8. *Exposure to (non-fatal) family violence and aggression* is based on eight items (w1, w2, ef1, ef2, ef3, ef4, ef5, ef6) and includes threats, physical assault, and psychological abuse

between parents and between parents (or other adults) and siblings. Table 16 shows that approximately 1 out of every 3 participants (28.8%) reported witnessing at least one incident of violence directed at a family member other than the participant, making this the least commonly occurring type of *indirect* violence exposure. Overall, no gender differences were found for *any* exposure to family violence and aggression. However, when gender differences were noted, at the individual item level, girls were consistently found to report small, but significantly higher rates of intra-family violence than boys. This was the case in five out of the nine indirect family violence exposures assessed in this study, which included different types of interparental assaults and threats of destruction of property (between parents). The second column from the left labeled “% overall” shows the lifetime prevalence rate for each type of indirect family violence and aggression. At this level, prevalence rates ranged between 5% and 17%. The last column from the right, labeled “% PY of LT” shows that between a quarter and a third of these indirect exposures occurred within the past year.

9. *Exposure to (non-fatal) school violence and threat* is based on two items (sc1, sc2) and include bomb threats and destruction of school property. Overall, 43.4% of youth reported at least one exposure of school-based violence. Thirty-seven percent of youth reported destruction of property or arson on school grounds and 17% reported a bomb threat. Small, but significant differences were found by gender. Girls were significantly more likely to report a bomb threat (18.8% vs. 15.6%) and boys were significantly more likely to report destruction of school property or arson (38.5% vs. 34.8%).
10. *Exposure to community violence* is based on five items (w3, w4, w6, w8, w9) and includes assault (with and without a weapon), civil unrest, war, and murder of someone close. The third section in Table 16 details the different types of community violence

exposures. Overall, 61% of boys and 53% of girls reported being exposed to violence in their community. Assault *without* a weapon was the most commonly occurring community violence exposure for both boys and girls, 52.4% and 42.9% respectively. This was also the type of community violence exposure most likely to have occurred in the past year. Assault *with* a weapon was the second most commonly occurring items in this category. Thirty-one percent of boys and 25% of girls reported this type of indirect violence exposure. Significant gender differences were found for assault with a weapon, assault without a weapon, and murder of a loved one. In each of these cases, boys reported higher rates than girls. Boys and girls were about equally likely to hear shots, bombs, or street riots (13%) and live in an area where guns and bombs could be heard due to war, combat or fighting (2%).

Table 15 Direct Lifetime Victimization Rates for a U.S. National Sample of 10 to 17-year-olds

	<i><u>Any Property Victimization</u></i>	3463	56.7	59.5	53.7	***	28.8	51.3
c1	Robbery	827	13.1	16.2	9.9	***	5.5	42.3
c2	Theft	2145	34.0	35.8	32.1	**	15.8	46.9
c3	Vandalism	1735	27.8	30.3	25.1	***	10.7	39.4
w5	Burglary of Family Household	1635	25.8	26.6	25.0	ns	7.4	28.8
	<i><u>Any Physical Assault Victimization</u></i>	3338	66.7	74.0	59.3	***	42.9	64.3
c4	Assault w/ weapon	749	11.8	15.2	8.3	***	4.5	37.9
c5	Assault w/o weapon	2009	31.7	40.5	22.6	***	14.9	47.2
c6	Attempted Assault	1295	20.5	26.9	14.0	***	9.1	44.8
c7	Threatened Assault	1687	26.7	29.9	23.3	***	12.2	46.0
c9	Biased Attack	249	3.9	5.1	2.7	***	2.0	51.8
p1	Assault by group of kids or gang	353	5.6	8.4	2.6	***	2.6	46.5
p2	Assault by Sibling	3076	48.6	51.9	45.3	***	25.8	53.3
p3	Genital Assault	990	15.6	26.2	4.6	***	8.5	54.7
p6	Dating Assault	216	4.2	5.2	3.3	***	2.6	62.5
	<i><u>Any Child Maltreatment</u></i>	1614	25.6	22.4	29.0	***	13.9	54.2
m1	Child Physical Abuse	777	12.3	13.1	11.4	**	4.3	35.4
m2	Psychological Aggression	1242	19.6	14.5	24.9	***	11.2	57.4
m3	Neglect	191	3.0	2.5	3.5	**	1.1	36.1
	<i><u>Any Sexual Victimization</u></i>	1164	22.9	18.1	27.8	***	15.6	68.3
S1	Fondling/Forced Sexual Contact by known adult	101	1.6	0.5	2.7	***	0.4	22.8
S2	Fondling/Forced Sexual Contact by unknown adult	43	0.7	0.2	1.1	***	0.2	34.9
S3	Forced sexual contact by peer	164	2.6	1.4	3.8	***	1.1	42.1
S4	Attempted Forced Sexual Contact	285	4.5	2.1	7.0	***	2.4	54.0

S5	Flashing	527	8.3	7.8	8.8	ns	4.7	56.5
S6	Sexual harassment	598	9.4	5.6	13.4	***	5.4	57.5
S7	Statutory sexual victimization	295	5.8	4.6	6.9	***	4.9	85.1
	<i>Kidnapping</i>	374	5.9	2.5	6.7	**	1.5	26.2
c8	Kidnapping	127	2.0	1.4	2.7	***	0.5	27.6
m4	Custodial Interference	275	4.3	3.9	4.8	ns	1.0	23.6
	<i>Any Bullying</i>	3245	51.5	48.4	54.8	***	25.5	49.8
p4	Physical Bullying	1792	28.3	28.2	28.5	ns	9.0	31.9
p5	Emotional/Verbal Bullying	2465	38.9	33.7	44.4	***	19.8	51.1
	<i>Any Online Victimization</i>	731	11.5	6.6	16.7	***	7.5	65.4
int1	Online Harassment	470	7.4	4.5	10.4	***	4.7	63.4
int2	Online Sexual Solicitation	416	6.5	3.0	10.3	***	4.2	64.7

Note 1: Dating assault was based on a sub-sample of 5,115 youth, as it was only asked of children 12 and over.

Note 2: ns = not significant, (*) = significant at .05 level, (**) = significant at .01 level, (***) = significant at .001 level.

Table 16 Indirect Lifetime Victimization Rates for a U.S. National Sample of 10 to 17-year olds

<i>Indirect Victimization Experience</i>		<i>n</i>	<i>% Overall (LT)</i>	<i>% Boys (LT)</i>	<i>% Girls (LT)</i>	<i>Sig</i>	<i>% Overall (PY)</i>	<i>%PY of LT</i>
<i>Any Exposure to Family Violence and Aggression</i>		1772	28.8	28.0	29.7	ns	11.5	37.9
w1	Interparental assault (pushed, slapped, hit, punched, beat up)	852	13.4	12.5	14.3	**	3.3	25.0
w2	Sibling physical abuse	332	5.2	4.8	5.7	ns	1.4	26.8
ef1	Threats of physical harm (inter-parental)	377	5.9	5.8	6.1	ns	1.5	25.7
ef2	Threats of destruction of property (inter-parental)	1064	16.8	15.0	18.6	***	3.8	22.7
ef3	Interparental assault (push)	885	14.0	12.8	15.2	**	3.2	22.8
ef4	Interparental assault (hit or slap)	649	10.2	9.6	10.9	ns	2.3	22.8
ef5	Interparental assault (kicked, choked, or beat up)	286	4.5	3.9	5.1	*	1	22.4
ef6	Any other intrafamilial violence	610	9.6	8.5	10.8	**	3.4	35.7
<i>Any Exposure to School Violence and Threat</i>		2744	43.4	44.0	42.8	ns	25.8	59.6
sc1	Bomb Threats	1088	17.1	15.6	18.8	***	8.3	48.8
sc2	Destruction of Property or Arson	2226	36.7	38.5	34.8	**	20.8	56.8
<i>Exposure to Community Violence</i>		3575	57.0	61.2	52.7	***	36	63.3
w3	Assault w/ weapon	1764	27.8	30.8	24.8	***	11.9	43.0
w4	Assault w/o weapon	3019	47.7	52.4	42.9	***	27.9	58.8
w6	Murder of loved one	695	11.0	9.4	12.5	***	3.9	36.0
w8	Hear shots, bombs, street riots	838	13.2	13.1	13.3	ns	6.4	48.7
w9	War/Combat/Fighting with guns or bombs	113	1.8	1.8	1.7	ns	0.8	46.0

Note 2: ns = not significant, (*) = significant at .05 level, (**) = significant at .01 level, (***) = significant at .001 level.

Discussion

This section focused on describing the different victimization measures used to assess poly-victimization. Results reported in this section showed that a large proportion of youth (90%) are victimized and some of them repeatedly as indicated by the average number of victimizations reported ($m=7.9$, $SD 6.1$). For some, it seemed victimization was inescapable, as a small but important number reported experiencing as many as 38 out of the 44 different types of victimizations assessed in this dissertation.

Direct Victimitizations. Physical assault was the most commonly occurring direct violence exposure for both boys and girls, but boys were consistently more likely than girls to report experiencing each of the eight different types of assaults assessed in this study. The most commonly occurring type of assault was at the hands of siblings, which should alert us to the fact that physical assault among siblings is worth addressing. Property crime victimization was the second most common type of direct violence exposure reported by this representative sample of US adolescents. Theft was the most commonly occurring property crime. These results substantiate the position of those who argue that in order to accurately measure and respond to children's full victimization experiences, measurements and intervention strategies should not ignore property crime victimization. Violations or loss of control over one's person has been shown to be consequential, but violation and loss of control of one's property may have an aggravating effect on children's responses to crime and violence. Bullying was the third most commonly occurring type of victimization and yet has received a lot more attention both in research and in practice than other more commonly occurring assaults, such as sibling assault (just mentioned). Approximately 23% of participants reported ever experiencing a sexual victimization. This rate is greater than most reported sexual victimization rates because it

concurrently measures what are considered to be the most serious sexual victimization types (i.e. forced sexual contact) along with what are considered less severe and more frequent inappropriate sexualized behaviors (i.e. flashing). It might be beneficial to disaggregate this seven-item sexual victimization variable in future studies, not just to report more comparable prevalence rates, but to better assess the effects of different types of victimization exposures. Kidnapping and online victimization were among the least commonly occurring direct victimizations.

Indirect Victimization. Community-based and school-based indirect violence exposures were more common than family-based ones. This result once again provides evidence for the perspective that well-versed responses to childhood victimizations need to expand beyond child maltreatment even if we perceive family-based violence to be more consequential.

Gender Differences. Overall, victimization profiles seemed to vary by gender. Adolescent boys were more likely to be victims of property crimes, child physical abuse, destruction of school property or arson, community-based assault with a weapon, community-based assault without a weapon, and murder of a loved one. Adolescent girls were more likely than boys to report psychological aggression at home, neglect, most forms of sexual victimization, stereotypical kidnapping, emotional/verbal bullying and online victimizations. This suggests that some of the documented gender differences in the adverse effects of victimization are at least partially accounted for by gender differences in victimization profiles.

Percent Past-Year of Lifetime. Most categories of direct victimization were not a “thing of the past” Except for kidnapping, at least half of participants reported a past-year incident of property victimization, physical assault, child maltreatment, sexual victimization, bullying and online victimization. The pattern was similar for indirect victimization exposures. More than

half of participants reported indirect exposure to community and school violence. Indirect exposure to family violence is less frequent and less likely to have occurred in the past twelve months, but it has generally received more attention than indirect exposures to school and community violence by professionals concerned about child well-being. This disproportionate focus on family-based victimization may be appropriate, but based on prevalence rates, other types of victimizations should be concurrently assessed with child maltreatment and inter-parental violence and aggression.

Past-Year Delinquency

NatSCEV 1 measures 15 rule-breaking behaviors that kids commonly get involved in. These behaviors include property crimes, personal assaults against peers and adults, drug consumption, truancy, and weapons possessions. NatSCEV 2 and 3 introduce four additional items that specifically capture bullying perpetration, alcohol consumption, and being arrested or taken into custody by the police. The current study uses 13 rule-breaking behaviors that were consistently measured across the three iterations of the NatSCEV.

Delinquency was created by summing the 13 items described below. The variable was subsequently dichotomized to distinguish youth who engaged in delinquency from those who reported not doing so. The screener items were grouped into the following delinquency categories in order to make sub-group comparisons: Property crime offenses, personal assaults, truancy, drug consumption, and weapons possession. Respondents were asked to affirm or deny engaging in any of the following delinquent behaviors using a yes/no response option. Table 17 details the past-year prevalence rates for delinquency perpetration overall, by gender, and across each NatSCEV iteration. This was done for each delinquency item, each aggregate delinquency category, and delinquency overall.

1. *Property crime offenses* is based on six items (d1, d4, d5, d6, d9, d11) that are grouped into two sub-categories of property crime, namely property damage and theft. Property damage includes breaking, damaging or destroying something that belonged to someone else on purpose and writing or spray painting where you are not supposed to. Theft is based on three items that measure taking something at school, home, or a store that didn't belong to the respondent. It also includes an item that assesses theft in the form of avoiding payment for goods and services received. Property crime perpetration was the most commonly occurring deviant behavior among youth 10 to 17 years of age. Approximately 17% of these youth affirmed perpetrating at least one of these property-based delinquent behaviors. Approximately 6% admitted to breaking or damaging someone else's property and 2% admitted to writing or spray painting where they are not supposed to. Fourteen percent of participants reported stealing something or avoiding payment for goods and services received. Boys were most likely to steal from a store (6.9%), while girls were most likely to steal from home (5.8). Theft at home was unique as it was the most frequently occurring type of theft and the only type of property crime where a gender difference was not found. Boys were significantly more likely than girls to perpetrate the remaining five types of property crimes. Table 17 also shows that except for theft at school and theft at home, each of the different types of property crimes experienced a significant drop in prevalence rate from 2008 to 2014. When trends were analyzed by gender (not shown), the downward trend was found to be significant for both boys and girls with only two exceptions. The downward trend for spray painting where you are not supposed to and for avoiding payment for goods and services received

were only significant for boys. Most youth who engaged in theft were not versatile in their behavior. Seventy-one percent of those who stole engaged in only one out of the four different types of thefts assessed. Twenty percent reported two different types. Less than 9% engaged in three or more types.

2. *Personal assault perpetration* is based on two items (d2, d3) and includes assault against a peer and assault against a parent or other grown up. Assault was the second most commonly occurring delinquent behavior, with 15.3% of the sample affirming perpetrating at least one of these behaviors in the past year. Assault against a peer (14.4%) was much more common than assault against an adult (2.2%). Boys were significantly more likely to hit, slap, or push a peer, than girls. The downward trend for this type of delinquent behavior also seems to be significant with close to a 50% reduction from 2008 to 2014. No significant gender differences or downward trend were found for assault against a parent or other grown up.
3. *Truancy* is based on a single item (d8) that asks about skipping school without an excuse. Approximately 12% of participants reported doing so in the past year. A significant downward trend was found from 2008 to 2014, however, significant gender differences were not found. Boys and girls were equally likely to report skipping school.
4. *Drugs consumption* was based on three items (d12, d13, d14) and includes smoking or chewing tobacco, smoking marijuana, and taking any other non-prescribed medication. Overall, 10% of the sample reported consuming at least one of these types of drugs, with boys reporting a significantly higher rate than girls for each of the different types of drugs assessed. Overall, tobacco was the only type of drug that

showed a significant decline over time. This, however, was predominantly due to the downward trend in girls' rate of consumption, as only girls' decline was significant when evaluating trends by gender. Among the 10% who used any drug, 58% used only one type and an additional 30% used two. The remaining 12% were versatile drug users, consumed all three types of drugs assessed.

5. *Weapons possession* is based on one item (d10) and includes any type of weapon. Most juveniles did not carry a weapon, but when they did, they were more likely to be boys. Overall, just under 5% of 10 to 17-year-olds carried a weapon in the past 12 months. Boys, however, were four times more likely to carry a weapon than girls. In this sample, 8% of boys, as compared to 2% of girls reported doing so. A significant downward trend was also found overall and by gender.

Discussion

This section focused on describing the 13 rule-breaking behaviors that were used to assess past-year delinquency in this dissertation. Results showed that property crime perpetration was the most commonly occurring deviant behavior among 10 to 17-year olds. Assault was the second most commonly occurring delinquent behavior, followed relatively closely by truancy.

Downward Trend. Like most studies that report trend data, overall most delinquent behaviors assessed in this dissertation were less likely to occur in 2014 than they were in 2008. Some gender differences were noted, but overall downward trends were documented for both boys and girls.

Gender Differences. Overall boys were more likely to engage in rule-breaking behaviors than girls. However, there were several types of delinquency items for which significant gender

differences were not found, indicating that boys and girls were equally likely to engage in it. Theft at home was among the most frequently occurring property crimes and boys and girls were equally likely to engage in it. There were no gender differences in boys' and girls' reports of skipping school without permission. There were, however, significant gender differences in drug consumption, with boys consistently reporting higher rates of tobacco, marijuana, and non-prescribed medication.

Among the most interesting things to note in this section is that involvement in delinquent behavior was substantially less prevalent than victimization rates. Overall, 35% of respondents reported perpetrating at least one rule-breaking behavior in the past-year, while 90% endorsed at least one lifetime victimization. This suggests that victimization, rather than juvenile delinquency is a more prevalent issue among U.S. adolescents.

Control Variables

This next section will focus on describing and justifying the different control variables used in multi-variate analyses. Most analyses will be controlled for race/ethnicity, SES, age, family structure, lifetime adversity, and conduct disorder diagnosis because they have been consistently linked in the literature with victimization and/or delinquency. This is the case in both poly-victimization and non-poly-victimization literature.

Race/Ethnicity. Crime statistics have consistently shown racial/ethnic differences in both victimization and violence offending. As it pertains to victimization, Hispanics and Blacks in the US tend to experience significantly higher rates of violence exposure as compared to Whites. Latino youth generally report higher rates of physical dating violence than Whites, but lower than Blacks. Latino females are more likely than females of other ethnicities to report forced sex. Latino men are also more likely to report higher sexual victimization rates than their White

Table 17. Past-Year Delinquency Perpetration Rates for a U.S. National Sample of 10 to 17-year-olds

<i>Perpetration Experience</i>		<i>n</i>	% <i>Overall (PY)</i>	% <i>Boys (PY)</i>	% <i>Girls (PY)</i>	<i>Sig</i>	<i>2008 (N1)</i>	<i>2011 (N2)</i>	<i>2014 (N3)</i>	<i>Sig</i>
<i>Any Delinquency</i>		2175	34.5	39.8	28.9	***	39.7	34.9	28.3	***
<i>Property Crime</i>		1087	17.2	20.2	14.0	***	20.6	17.0	13.7	***
<i>Property Damage</i>		459	7.2	9.1	5.3	***	10.3	6.8	4.5	***
d1	Break/Damage Property	376	5.9	7.4	4.4	***	8.8	5.5	3.4	***
d9	Spray Paint on walls, sidewalk or cars	142	2.2	2.9	1.5	***	2.9	2.4	1.3	***
<i>Theft</i>		876	13.8	16.3	11.2	***	15.8	13.8	11.7	***
d4	Theft at School	229	3.6	4.7	2.5	***	3.9	4.0	2.9	ns
d5	Theft at Home	368	5.8	5.8	5.7	ns	5.7	5.9	5.8	ns
d6	Theft at Store	330	5.2	6.9	3.4	***	7.2	4.6	3.7	***
d11	Avoid Paying for Goods and Services	302	4.8	6.1	3.3	***	6.1	4.5	3.6	***
<i>Assault</i>		975	15.3	19.6	15.3	***	19.6	15.7	10.4	***
d2	Assault against other kids	918	14.4	18.8	9.9	***	18.7	14.6	9.7	***
d3	Assault against parent/grown-up	142	2.2	2.5	2.0	ns	2.6	2.4	1.6	ns
d8	<i>Truancy</i>	755	11.9	12.2	11.5	ns	15.2	11.2	9.1	***
<i>Drugs</i>		639	10.1	11.9	8.1	***	10.9	9.9	9.4	ns
d12	Tobacco	356	5.6	7.4	3.7	***	7.0	4.8	5.1	**
d13	Marijuana	483	7.6	8.7	6.5	***	7.7	7.8	7.3	ns
d14	Any other drug-not prescribed to you	149	2.3	2.7	1.9	*	2.8	2.4	1.8	ns
d10	<i>Weapons Possession</i>	296	4.7	7.6	1.6	***	5.8	4.7	3.4	**

Note: ns = not significant, (*) = significant at .05 level, (**) = significant at .01 level, (***) = significant at .001 level.

counterparts (C. A. Cuevas et al., 2014). Blacks and Hispanics report disparities not just in the presence of victimization, but in the quantity and severity of violence exposure.

As it pertains specifically to poly-victimization, Black youth experience higher levels of poly-victimization compared to White youth (Finkelhor, Shattuck, et al., 2011). Latino youth also tend to be over-represented among poly-victims. A 2007 study reported that they made up 9% of the sample but comprised 17% of low-poly-victims and 22% of high-poly-victims (David Finkelhor et al., 2007). Another study evaluating poly-victimization, income, and ethnic differences in trauma-related mental health during adolescence reported that poly-victimization appeared to account for some of the racial and ethnic differences in mental health symptoms. In some cases, poly-victimization, fully accounted for the differences (e.g. Non-Hispanic Blacks vs. Whites) and in others it partially accounted for it (e.g. Hispanics vs. Whites) (Andrews et al., 2015). While poly-victimization only accounted for a small portion of the difference, as demonstrated by small effect sizes, a significant finding merits the inclusion of race as a control variable. A study that specifically focused on poly-victimization and delinquency found that Hispanics and non-Hispanic Blacks endorsed greater rates of poly-victimization than non-Hispanic Whites and that differences in delinquency were accounted for by poly-victimization. However, the effect was moderated by race, as poly-victimization was less predictive of delinquency perpetrated by Hispanics, as compared to non-Hispanic Whites (Lopez et al., 2017). Table 14 details the racial and ethnic composition of the subsample of 10 to 17-year-olds analyzed in this dissertation.

SES. As it pertains to socio-economic status, some studies have reported that low SES is not significantly connected to poly-victimization (Ellonen & Salmi, 2011; D. Finkelhor, R. K. Ormrod, et al., 2007c). However, others have reported a significant difference based on income

(F. Dong, Cao, Cheng, Cui, & Li, 2013), which makes SES a good candidate for a control variable and to explore further in future studies. As it pertains to the adverse effects of poly-victimization, SES might help explain the mixed findings. It reported that poly-victimization predicts mental health outcomes regardless of income, but it predicts depression and PTSD even more strongly among low-income youths. Additionally, researchers have argued that low SES and chronic poverty may increase stress level, which in turn increases the likelihood of harsh parenting among low-income parents (Rodriguez, 2010) and therefore maltreatment, one of the main aggregate categories used to operationalize poly-victimization.

Gender. Crime statistics have consistently reported that boys' and girls' involvement in crime and delinquency vary substantially, despite the well documented gender gap reduction of recent years. The *victimization* literature also reports gender differences. Generally speaking, results are mixed both in terms of prevalence and in terms of predicting adverse effects (Feng et al., 2015).

A Russian based study of young adults found that male participants were more likely to experience theft, all types of assaults, and witnessing violence in childhood. While female respondents were more likely to report emotional abuse, bullying and sexual assault (Bogolyubova et al., 2015). While not entirely consistent, some of these patterns have been replicated in US based studies as well (Cater, Andershed et al. 2014;), indicating that more research is needed in this area. Studies not specifically focused on gender differences should control for gender in their statistical models or conduct and report analyses separately by gender. This dissertation will do the latter. This is particularly important given discussions regarding the possibility of unique gendered pathways to both offending (D. D. DeHart & Moran, 2015) and violence exposure.

Age. Age is also an important control variable because victimization experiences accumulate with age (Radford et al., 2013) and victimization profiles vary by age (Cyr et al., 2012; Finkelhor, Shattuck, et al., 2011; Finkelhor, Turner, et al., 2009). Additionally, most poly-victimization studies report that poly-victimization increases with age. Although at least one study has reported a larger proportion of poly-victims among 12-to-15-year-olds than among those aged 16 to 18 (F. Dong et al., 2013). Mixed results in the literature is often among the best reasons to control for a specific variable.

Family Structure. Family structure is defined by the composition of the household and was categorized into the following four categories: children living with (1) two biological or adoptive parents (2) one biological or adoptive and a partner (3) a single biological parent, or (4) other nonparent caregiver (Mitchell, Hamby, Turner, Shattuck, & Jones, 2015). Poly-victimization has been found to be more common among widowed, separated, or divorced households (Chan, 2014). The majority of participants lived with two biological or adoptive parents. Table 14 details the distribution of family structure further.

Lifetime Adversities. Lifetime adversities include things such as serious illnesses, accidents, hospitalizations, parental job loss, parental substance abuse and being sent or taken away from home. Each of these adversities can be traumatizing and/or challenge a person's ability to effectively cope with hardships, such as victimizations. Prior research results and the focus of the current study make it, so lifetime adversity is an important control variable. It's important to tease out the effects of lifetime adversities from the effect of poly-victimization on delinquency for a couple of reasons. First, the focus of this study is to evaluate the unique and cumulative effect of interpersonal victimizations on delinquency. The unique effect of victimization cannot be assessed without controlling for non-victimizing adversities which have

been found to be highly correlated to victimization and poly-victimization (D. Finkelhor, R. K. Ormrod, & H. A. Turner, 2007b; D. Finkelhor, R. K. Ormrod, et al., 2007c; Ford et al., 2010). Mean lifetime adversity score was found to be least among non-poly-victimized youth and highest among highly poly-victimized youth (Finkelhor, Ormrod, Turner, & Hamby, 2005). Second, the adverse effects of specific types of victimizations have been found to be worse when it occurs in combination with adversities such as economic hardships (Kisiel, 2014). Second, poly-victimization has been found to be a more important predictor of adverse mental health effects than non-victimizing adversities.

Table 18 details the lifetime prevalence rates for each of the 15 lifetime adversity items measured in this study, overall and by gender. The table shows that 86% of participants reported experiencing at least one non-victimizing, lifetime adversity. Overall, the three most commonly occurring adversities were having a loved one be very ill and require prolonged hospitalization (48.5%), having a loved one involved in a very bad accident that also required hospitalization (39.5%), and losing someone to an illness or accident (46.1%). The least common were living in the streets or a shelter (2.3%) and being sent or taken away from your family (3.2%). Boys and girls were equally likely to have a parent or guardian imprisoned or have a drug problem; equally likely to have a loved one involved in a bad accident; and equally likely to themselves be badly ill, live on the streets and be sent or taken away from their families. When significant gender differences were found, boys, as compared to girls, were more likely to have been in a very bad accident (12.7%), more likely to have experienced a very bad fire or natural disaster (10.7%), more likely to have repeated a 3 year in school (10.1%), and more likely to have a parent or guardian be deployed (8.2%). Girls were significantly more likely to have a loved one be very ill (51.2%), more likely to have a parent or guardian lose their job (23.2%), more likely to live in a

household where their parents were always arguing (20.2%), and more likely to have a loved one attempt suicide (15.3%).

Oppositional Defiant Disorder or Conduct Disorder Diagnosis. Parent-reported diagnosis of oppositional defiant disorder (ODD) or conduct disorder (CD) was also controlled to ensure that differences in delinquent behavior are not due to differences in these psychiatric diagnoses. Although some recent studies have argued that ODD and CD are inherently two distinct disorders with distinct underlying factors (Cavanagh, Quinn, Duncan, Graham, & Balbuena, 2017), both have been linked to deviant, rule-breaking, and/or delinquent behaviors. Conduct disorder is characterized by aggressive or antisocial behavior (Blair, 2013), which can manifest itself as violations of major rules, societal norms and laws (Murray & Farrington, 2010). A study of adjudicated adolescent offenders in a developing country found that 57% of respondents met criteria for CD (Olashore, Ogunwale, & Adebowale, 2016). Likewise, ODD can be linked to delinquency by its association with emotional dysregulation and irritability (Cavanagh et al., 2017). Controlling for these diagnoses was important although it applied to less than 2% of our sample. Approximately 2 out of every 3 participants with this diagnosis had received it by age 11 and some as early as age 3 (2.5%).

Discussion

This section focused on describing the control variables used in all subsequent multivariate analyses: race/ethnicity, SES, age, family structure, lifetime adversities and oppositional defiant disorder or conduct disorder diagnosis. Most controls were included because they have been found to be related to either victimization, poly-victimization, and/or delinquency. Mixed results in the literature was also considered a strong justification for statistically controlling its effect.

Table 18. Lifetime Adversity Rates for a U.S. National Sample of 10 to 17-year-olds

<i>Lifetime Adversity</i>	<i>n</i>	<i>% Overall (LT)</i>	<i>% Boys (LT)</i>	<i>% Girls (LT)</i>	<i>Sig</i>
<i>Any Lifetime Adversity</i>	890	86.0	85.7	86.4	ns
le1 Very bad fire or natural disaster (self)	626	9.9	10.7	8.9	**
le2 Very bad accident (self)	638	10.0	12.7	7.3	***
le3 Very bad illness (self)	1163	18.4	18.8	17.9	ns
le4 Very bad accident (loved one)	2496	39.5	40.6	38.4	ns
le5 Very bad illness (loved one)	3065	48.5	45.9	51.2	***
le6 Lived in the streets or shelter (self)	147	2.3	2.4	2.2	ns
le7 Repeat school year (self)	548	8.6	10.1	7.0	***
le8 Job loss (parent or guardian)	1399	22.1	21.1	22.2	**
le9 Sent away or taken away from family (self)	229	3.6	3.5	3.7	ns
le10 Imprisonment (parent or guardian)	518	8.2	7.8	8.5	ns
le12 Drug abuse (parent or guardian)	827	13.1	12.3	13.8	ns
le13 Parents always arguing	1203	19.0	17.8	20.2	**
le14 Suicide Attempt (loved one)	779	12.3	9.4	15.3	***
le15 Deployment (parent or guardian)	473	7.5	8.2	6.7	**
le16 Loss of loved one due to illness or accident	2922	46.1	43.4	48.9	***

Note: ns = not significant, (*) = significant at .05 level, (**) = significant at .01 level, (***) = significant at .001 level.

This chapter focused on detailing the ways in which the independent (*lifetime victimization*) and the dependent variables (*past-year delinquency*) were constructed. The items and the aggregate categories created to make the data more manageable were discussed and presented in Tables 15 through 17. Prevalence rates for the different victimization categories ranged from a low of 6% (kidnapping) to a high of 67% (physical assault). Delinquency rates ranged from a low of 5% (weapons possession) to a high of 17 % (property damage). Results provide evidence for the fact that childhood victimization is a more prevalent issue among youth than juvenile delinquency. Most children in this study (90%) have been victimized at least once in their lifetime, but only about 35% have engaged in one of the 13 rule-breaking behaviors

assessed in this study. While this chapter has specifically focused on measures, the next chapter begins to look at the relationship between poly-victimization and delinquency.

Chapter 5: Secondary Data Analysis-Poly-victimization and Delinquency

Introduction

A number of studies using a variety of samples and instruments have found that poly-victimization has detrimental effects on general mental health status (David Finkelhor et al., 2007; Turner et al., 2010), physical health (Bjorklund, 2010), suicidal ideation (H. A. Turner, D. Finkelhor, A. Shattuck, & S. L. Hamby, 2012), psychological distress (Finkelhor, Ormrod, et al., 2009b), PTSD (E. K. L. Chan, 2013), and trauma symptoms (Ellonen & Salmi, 2011; Finkelhor, Shattuck, et al., 2011), to name a few. Despite this breadth of research, experts have insufficiently explored the relationship between poly-victimization and delinquent behavior. This omission is particularly interesting given the prominence of articles that evaluate the link between childhood victimization and delinquent or deviant behavior. This study is concerned with addressing this gap in the literature by conducting a more comprehensive study of delinquency within the context of poly-victimization.

Multiple studies have evaluated the relationship between victimization and delinquency. The literature on poly-victimization and delinquency is a bit more restricted than victimization in general. Eight such studies will be summarized here (Cuevas, 2007; Ellonen, 2011; Ford, 2010; Soler, 2013; DeHart, 2009; Cater, 2014; DeHart, 2015; du Plessis, 2015). All eight studies concluded that poly-victimization and delinquency (or criminality, or conduct disorder) co-occur, but none systematically evaluated the full set of relationships that exists between these variables. They also did not control for variables related to both victimization and delinquency as proposed in the current study, predominantly because delinquency was often one of several adverse effects researchers evaluated. As such, most studies were only able to report the presence or absence of

delinquent behavior *overall*. No study known to the author has attempted to evaluate the relationship between poly-victimization and sub-categories of delinquency. The current study is designed to fill this gap in the literature.

Only two studies by the same author (D. DeHart, 2009; D. D. DeHart & Moran, 2015) focused exclusively on delinquency, but it examined a limited number of victimization and delinquent behaviors. Its sample was also limited in that it focused exclusively on adjudicated girls, excluding girls in the general population and boys altogether, a serious threat to generalizability. Among the eight studies referenced, only one used a delinquency measure that is comparable to the one being used in this dissertation. All other studies used less comprehensive measures of delinquency.

Another study assessed the conduct disorder symptoms of a community sample of high school students using the delinquency subscale of the Child Behavior Checklist (CBCL), a twelve-item subscale that measures conduct problems such as substance use, stealing and truancy (du Plessis, Kaminer, Hardy, & Benjamin, 2015). This study was impressive in that it measured 36 types of violence exposures and 12 types of delinquent or criminal behaviors, but it deviated substantially from the recommended operationalization of poly-victimization. The authors reported a 93% poly-victimization rate, but that was a function of the fact that it operationalized poly-victimization as experiencing more than one type of victimization, although the recommended poly-victim score threshold for this age group is 12 (Finkelhor, Ormrod, et al., 2009b). In essence, the variable poly-victimization did not vary enough to make analyses, and therefore findings, worthwhile. It's not surprising that the authors did not report the effects of poly-victimization on conduct disorder symptoms, but rather the effect of community, domestic,

school and sexual violence on conduct disorder. This study serves as one of many examples of articles that use the term “poly-victimization”, but measure something else.

Given the gaps and limitations in the current literature, I argue that the question about whether or not poly-victims are more likely to be delinquent requires further consideration. To overcome these limitations, this dissertation will evaluate the relationship between lifetime poly-victimization and past-year delinquency in a large, nationally representative sample of adolescents, while accounting for a variety of factors linked to both victimization and delinquency. It will also make subgroup comparisons (1) to determine if the effect of poly-victimization is different for different types of delinquent behaviors and (2) if it varies by gender.

This chapter seeks to answer the following research question: Is the effect of poly-victimization on delinquency complex? In other words, does it depend on the type of offense perpetrated? Does it vary based on the gender of the victimized child? Although poly-victimization has been found to be a strong predictor for a variety of adverse outcome measures, including delinquency, it would be a mistake to conclude that poly-victimization would predict all subtypes of delinquent behaviors, as compared to delinquency overall, without empirically testing it. Researchers, and subsequently practitioners, should not assume that what is true at the aggregate level holds true once the variable is disaggregated. Neither can we assume that what is true overall is true for both boys and girls.

Relevance of Research Question. The literature has consistently linked cumulative trauma to symptom complexity yet most evaluations of the effects of poly-victimization are limited to internalizing behaviors. Some studies have extended this line of research by testing the effect of multiple victimizations (along with non-victimizing adversities) on interpersonal and relational difficulties, physical health (Chartier et al., 2010) and brain functioning (Anda et al.,

2006), but more is needed on externalizing behavior. A wide array of adverse effects stemming from the same set of circumstances suggests that a more comprehensive intervention approach is needed in order to reduce the effects of multiple victimization in childhood. Additionally, since studies have found a link between engaging in delinquency and later perpetration of child maltreatment in adulthood, preventing juvenile deviant behavior by poly-victims may also reduce subsequent child abuse and neglect.

Poly-victimization

A lifetime poly-victimization variable was created by summing the 44 different victimization items available across all three iterations of the NatSCEV. The variable was subsequently dichotomized to be able to assess differences between poly-victims and non-poly-victims in variety of measures. A cut-off of 14 was used in this analysis in order to replicate the original operationalization of the concept. The original operationalization of poly-victimization used the cut-off score that was one standard deviation above the mean. The cut-off score for a past-year victimization assessment using 34 different types of victimizations was four. Our assessment is based on 44 different types of victimizations experienced during childhood. One standard deviation above the mean was equivalent to 14 different types of victimizations, which accounts for approximately 16% of the total sample. Using this cut-off, 14.7% of boys and 16.3% of girls were considered poly-victims. These gender differences, however, were not found to be significant, indicating that boys and girls are equally likely to be considered poly-victims. Table 19 details some additional demographic characteristics of poly-victims as compared to non-poly-victims.

Age. Pearson's correlation was calculated using the sum-of-items-version of poly-victimization to examine the relationship between age and poly-victimization. Results indicate

that there is a weak, positive, but statistically significant relationship between age and poly-victimization. As age increases, poly-victimization increases.

Race. Significant differences in poly-victimization were found by race/ethnicity. White, non-Hispanics were the least likely to meet criteria for poly-victimization with a prevalence rate of 13.4%. The second least likely category were Hispanics, any race with a prevalence rate of 17.6%. There was a greater proportion of poly-victims among Black, non-Hispanics as 1 in every 4 Black were poly-victims.

Household Income. Poly-victimization was more common among the poorest families, those who earned less than \$20,000 per year. Approximately 23% of respondents who received financial assistance in the form temporary aid to needy families or WIC were poly-victims. The poly-victimization rate among those who earned more than \$50,000 per year was 12.4%.

Family Structure. Poly-victimization was the less common among children living in two-parent households than any other family organization.

Table 19 Lifetime Poly-victimization Rates Among a National Sample of 10 to 17-Years.

	All (n=6366)	
	n	%
Age (Pearson correlation)	(.20, < .000)	
Gender^{ns}		
Overall	724	15.5%
Male	340	14.7%
Female	384	16.3%
Race/Ethnicity***		
White, non-Hispanic	424	13.4%
Black, non-Hispanic	133	22.1%
Other, non-Hispanic	46	20.5%
Hispanic, any race	117	17.6%
Total Household Income***		
Less than \$20,000	134	23.5%
\$20,000 to \$50,000	206	19.8%
More than \$50,000	346	12.4%
Receiving Financial Assistance***	193	23.4%
Family Composition***		
Two-parent household	312	10.2%
Parent and step-parent	119	26.2%
Single parent	232	24.6%
Other adult	61	30.5%

Data Analysis

The primary goal of the analysis was to discern whether poly-victimization had an effect on sub-categories of delinquency. To achieve this goal two types of analyses were conducted. The first were a series of cross-tabulations with chi-square tests of significance by categories of delinquency. The second set of analyses were binary logistic regressions used to determine the increased probability of engaging in different types of delinquent behaviors based on poly-victimization categorization. These analyses were conducted controlling for age, race/ethnicity, family structure, household income, and oppositional defiant disorder and/or conduct disorder diagnosis. Table 20 details the past-year delinquency *prevalence rates* by poly-victimization

using a dichotomous version of the poly-victimization variable. Table 21 details the *odd ratios*, or increased probability of engaging in different types of delinquent behaviors also by poly-victimization status. To assess whether the effect of poly-victimization on delinquency differs by gender, separate analyses were conducted for boys and girls.

Results-Delinquency Overall

Comparisons of delinquency rates by category of poly-victimization revealed some interesting results. While overall, 34.5% of the sample was delinquent, the delinquency rate for non-poly-victims was somewhat lower, 30.7%. Both of these rates, however, were substantially different from the rate reported by poly-victims, the sub-group of youth who had been victimized in at least 14 different ways. The overall delinquency prevalence rate among this group was 78.8%, meaning that approximately four out of every five poly-victims engaged in at least one delinquent behavior. When cross-tabs were evaluated separately by gender, we found that 82.6% of poly-victims boys and 75.3% of poly-victim girls were delinquent. When victimization experience was further differentiated we found that only 7% of non-victimized youth resorted to delinquency. Delinquency involvement increased to approximately 34% for children who were victimized but did not meet the pre-established cut off score, one standard deviation above the mean. The pattern was the same when these additionally differentiated analyzes were conducted for boys and girls separately. Delinquency was least common among non-victims, greater among non-poly-victims, and at its highest among the most victimized youth. This was consistent and significant across 114 different cross-tabulations that evaluated delinquency overall, five different aggregate categories of delinquency, and 13 individual delinquency items. All of these results together suggest that poly-victimization is a robust predictor of delinquency.

Results-Aggregate Categories of Delinquency

Property Crime. We were also able to determine that property crime was the most commonly occurring delinquent behavior for our entire sample of 10 to 17-year-olds, with 17% of youth reporting having perpetrated at least one property crime in the past 12 months. Results comparing poly-victims to non-poly-victims followed a similar pattern. Property crime was the most common aggregate delinquency category among poly-victims. Overall, 50% of poly-victims reported perpetrating a property crime. Results varied substantially by gender. Sixty percent of poly-victim boys, as compared to 41% of poly-victims girls perpetrated a property crime in the past 12 months.

Assault. Overall, 43.9% of poly-victims perpetrated an assault in the past 12 months, as compared to 10.9% of non-poly-victims in the same timeframe.

Any Drug Use. Like results for the overall sample, marijuana use was the most prevalent drug use for poly-victim and non-poly-victim boys and girls.

Results-Individual Delinquency Items

Similar to the overall sample, poly-victim boys reported higher delinquency rates than poly-victim girls. Without controls, these gender differences were greatest for theft at school (17.6% for boys vs. 7.3% for girls), theft at a store (27.1% for boys vs. 13.3% for girls), and weapons possession (23.0% for boys vs. 7.3% for girls). Poly-victim boys and girls were about equally likely to take something that didn't belong to them at home (17.1% for boys vs. 16.4% for girls), assault a parent or grown up (10.6% for boys vs. 9.1% for girls), skip school without permission (34.7% for boys vs. 37.3% for girls), and take a drug, not tobacco or marijuana, that was not prescribed to them (10.9% for boys vs. 10.4% for girls).

**Table 20 Delinquency *Prevalence* Rates by Poly-Victimization Status
in a U.S. National Sample of 10 to 17-year-olds by Gender**

	<i>Overall</i>		<i>Boys</i>		<i>Girls</i>	
	% Non- PV	% PV	% Non- PV	% PV	% Non-PV	% PV
<i>Delinquency Perpetration</i>						
Any Delinquency	30.7	78.8	36.7	82.6	24.7	75.3
Any Property Crime	13.8	50.0	16.5	60.0	11.1	41.1
<i>Property Damage</i>	4.9	27.1	6.5	34.4	3.2	20.6
d1 Break/Damage Property	3.9	22.4	5.1	28.8	2.6	16.7
d9 Spray Paint on walls, sidewalk or cars	1.3	9.9	2.0	12.6	0.7	7.6
<i>Theft</i>	11.3	40.3	13.5	49.4	9.1	32.2
d4 Theft at School	2.5	12.2	3.4	17.6	1.5	7.3
d5 Theft at Home	4.9	16.7	4.8	17.1	4.9	16.4
d6 Theft at Store	3.5	19.8	4.9	27.1	2.0	13.3
d11 Avoid Paying for Goods and Services	3.8	16.2	5.1	21.5	2.4	11.5
Any Assault	10.9	43.9	14.9	53.2	6.9	35.7
d2 Assault against other kids	10.4	40.6	14.3	50.9	6.4	31.5
d3 Assault against parent/grown-up	1.0	9.8	1.2	10.6	0.8	9.1
d8 Truancy	10.5	36.1	11.6	34.7	9.5	37.3
Any Drug Use	8.4	35.4	10.9	38.5	5.8	32.6
d12 Tobacco	4.1	21.8	6.2	26.5	1.9	17.7
d13 Marijuana	6.1	28.6	7.8	31.2	4.5	26.3
d14 Any other drug-not prescribed to you	1.4	10.6	2.0	10.9	0.8	10.4
d10 Weapons Possession	3.5	14.7	6.0	23.0	0.9	7.3

Note: all Chi-square tests were found to be significant at the .001 level

Results-Multivariate Analyses

Binary logistic regressions were ran to predict delinquency overall and subsequently each sub-category of delinquency available in this dataset. Bivariate analyses were intended to inform the multivariate analyses, but since all cross-tabulations were significant, multivariate analyses were conducted for all delinquency outcome measures. Analyses were ran for the entire sample of youth, and then separately by gender, controlling for age, race and ethnicity, household income, family structure, lifetime adversities, and a diagnosis of conduct or oppositional defiance disorder. Logistic regressions were preferable because the outcome variable of interest is not normally distributed and therefore violates one of the basic assumptions of linear regression.

Poly-victimization predicted all types of delinquency for both boy and girls, no exceptions. Overall, poly-victims were 4.5 times more likely to engage in delinquency. The effect of poly-victimization on delinquency seemed to be somewhat stronger for girls than for boys as poly-victim girls were 5.3 times more likely to engage in norms violating behaviors, as compared to poly-victim boys who were 4.1 times more likely. An evaluation of the different delinquency items showed that the odds ratio for poly-victimized girls were greater than the odds ratio for poly-victimized boys in 10 out of the 13 delinquency items analyzed in this dissertation. This is an interesting pattern, but it has to be interpreted carefully as all 13 confidence intervals overlap, indicating the gender differences may not be significant.

**Table 21 Likelihood of Engaging in Different Types of Delinquent Behaviors by Poly-Victimization Status
in a U.S. National Sample of 10 to 17-year-olds by Gender**

<i>Delinquency Perpetration</i>	Overall				Boys				Girls			
	<i>Odds Ratio</i>	<i>Sig</i>	<i>Lower</i>	<i>Upper</i>	<i>Odds Ratio</i>	<i>Sig</i>	95% CI		<i>Odds Ratio</i>	<i>Sig</i>	95% CI	
Any Delinquency	4.5	***	3.6	5.6	4.1	***	2.9	5.8	5.27	***	3.9	7.1
Any Property Crime	3.9	***	3.2	4.8	4.5	***	3.4	6.0	3.8	***	2.8	5.2
<i>Property Damage</i>	4.1	***	3.1	5.4	4.2	***	3.0	6.0	4.6	***	2.9	7.3
d1 Break/Damage Property	3.8	***	2.8	5.1	3.9	***	2.6	5.7	4.1	***	2.5	6.8
d9 Spray Paint on walls, sidewalk or cars	5.6	***	3.5	8.9	5.0	***	2.9	8.8	7.7	***	3.4	17.6
<i>Theft</i>	3.4	***	2.8	4.3	3.7	***	2.7	5.0	3.6	***	2.5	5.0
d4 Theft at School	3.8	***	2.6	5.5	4.0	***	2.5	6.4	3.5	***	1.8	7.0
d5 Theft at Home	3.3	***	2.4	4.5	2.9	***	1.9	4.4	3.9	***	2.5	6.2
d6 Theft at Store	3.7	***	2.7	5.1	4.4	***	3.0	6.4	3.2	***	1.8	5.6
d11 Avoid Paying for Goods and Services	2.6	***	1.9	3.6	2.7	***	1.7	4.0	2.7	***	1.5	4.7
Any Assault	3.8	***	3.1	4.8	2.9	***	2.9	5.3	4.5	***	3.2	6.4
d2 Assault against other kids	3.5	***	2.8	4.3	3.8	***	2.8	5.1	3.8	***	2.6	5.4
d3 Assault against parent/grown-up	8.6	***	5.2	14.4	8.3	***	4.2	16.2	9.3	***	4.2	20.6
d8 Truancy	2.5	***	2.0	3.2	1.9	***	1.3	2.6	3.5	***	2.5	4.9
Any Drug Use	3.8	***	3.0	4.8	3.5	***	2.5	4.8	4.6	***	3.1	6.5
d12 Tobacco	4.2	***	3.1	5.8	3.6	***	2.4	5.4	6.9	***	4.0	11.9
d13 Marijuana	4.0	***	3.0	5.2	3.9	***	2.7	5.6	4.2	***	2.8	6.4
d14 Any other drug-not prescribed to you	5.6	***	3.6	8.8	4.2	***	2.4	7.5	8.6	***	4.0	18.5

Note: All analyses presented including the following control variables: race/ethnicity, SES, age, family structure, lifetime adversities, oppositional defiant disorder or conduct disorder diagnosis

Discussion

The overall objective of this chapter was to determine if the effect of poly-victimization on delinquency was complex. I was specifically interested in discussing whether or not the effect of poly-victimization varied by type of delinquency and gender of the offending poly-victim. The analytical strategy was therefore to systematically disaggregate the delinquency variable. Separate analyses were conducted for any delinquency, any property crime, property damage, theft, any assault, truancy, drug use, weapons possession and each of the 13 items that make up the delinquency categories just listed. Chi-square and binary logistic results consistently showed that poly-victims were significantly more likely to engage in delinquent behaviors than non-poly-victims. This was consistently true for both boys and girls.

Overall, poly-victims were 4.5 times more likely to engage in delinquency, but odd ratios ranged from 2.5 (truancy) to 8.6 (assault against parent or other grown up). These results indicate that while poly-victimization is a consistent predictor of delinquency, it may exert a disproportionate effect on some specific types of delinquent behaviors. Not surprisingly, however, the three highest odd ratios were found among the delinquency types with the lowest prevalence rates, namely assaulting a parent or other adult (OR 8.6, prevalence rate 2.2%); spray painting on walls, sidewalks, and cars (OR 5.6, prevalence rate 2.2%); and misuse of any drug not prescribed to the individual (OR 5.6, prevalence rate 2.3%). Beyond those low-base rate delinquency items, poly-victimization seems to exert an equally strong effect on all different types of delinquent behaviors, including personal, property and drug-related offenses. These results do not entirely negate the need to explore sub-categories of delinquency in future poly-victimization studies. The need to empirically determine if the mediating processes that link poly-victimization to delinquency vary by delinquent behavior remains a question to be

answered. Possible mediating variables include anger, maladaptive coping, negative self-concept, and negative self-attribution, to name a few. Each of these mediating pathways could be general or specific.

While the odd ratios for girls were found to be somewhat greater than the odd ratios for boys in 10 out of the 13 comparison points, gender differences were not found to be significant. Poly-victimization is a strong and robust predictor of delinquency for both boys and girls. This suggests that although boys have consistently been found to engage in more delinquency than girls, programs and interventions specifically interested in simultaneously addressing child well-being (in this case represented by victimization) and juvenile offending (in this case represented by delinquency) should focus on both boys and girls.

It does not seem that the effect of poly-victimization on delinquency is complex, but rather relatively robust and consistent across type of delinquency and gender of child. While odd ratios varied somewhat, particularly for the least prevalent types of offenses, results suggest that poly-victimization has an indiscriminate effect on delinquency.

Chapter 6: Secondary Analysis-The Predictive Power of Poly-victimization

Introduction

Researchers, policy-makers and practitioners can generally agree that intervention efforts aimed at improving child well-being should prioritize children at highest risk of adverse outcomes. There is no consensus however regarding which experiences and conditions constitute the "highest priority need". Developmental trauma literature argues that intervention efforts should give greater emphasis to children who experience the most severe forms of childhood victimizations such as child maltreatment and sexual abuse. The focus here is predominantly on acute and extraordinary victimizations. Acute victimizations are generally of greater severity but occur less frequently (e.g. child maltreatment). Extraordinary victimizations are generally very infrequent but attract a great deal of attention (e.g. sexual assault) (Finkelhor, 2008). Poly-victimization literature, on the other hand, argues that the focus should be on addressing the needs of children who experience multiple types of victimizations in a variety of contexts, irrespective of severity. The focus here is therefore the cumulative effect of pandemic, acute and extraordinary victimizations. Pandemic victimizations are generally not considered to be severe, but occur to a majority of people (Finkelhor, 2008). The main objective of this chapter is to provide empirical information for advancing this very important debate.

The literature on this issue has yet to be reconciled, as results regarding whether poly-victimization is a stronger predictor of adverse outcomes than other categories of victimization are mixed. A 2016 cross-sectional study of Swedish youth tested whether poly-victimization or individual categories of victimization was the stronger predictor of trauma related symptoms (anxiety, depression, anger, PTSD, dissociation, and sexual concerns) (Aho, Gren-Landell, et al.,

2016). This study differentiated poly-victims by using the top 10% cut off score, which corresponded to 10 or more lifetime victimizations, and found both male and female poly-victims had significantly more trauma symptoms than non-poly-victims. For all victimization categories (conventional crime, child maltreatment, peer and sibling victimization, sexual victimization, and witnessing/indirect victimization), regression coefficient values diminished when poly-victimization was entered into the model and adjusted R-square values increased indicating that poly-victimization explains some additional variance above and beyond each category of victimization. However, odd ratios for child maltreatment (particularly for boys) and sexual victimization (particularly for girls) were found to be greater than the odds ratio for poly-victimization, indicating that child maltreatment and sexual victimization were stronger predictors of trauma symptoms than poly-victimization. This is a noteworthy result because studies have found and reported the opposite (Richmond et al., 2009; Sabina & Straus, 2008; C. A. Cuevas et al., 2010).

Research Question:

Given these results, this chapter is focused on answering the following research question:

Does poly-victimization predict increased levels of delinquency above and beyond any single form of childhood victimization?

The goal is to test the stability (or robustness) of poly-victimization as a predictor of adverse effects in general, and as a predictor of norms violating behaviors more specifically. This is important for two reasons, the first to inform a theoretical debate with practical implications. Second, to advance our exploration and therefore understanding of the importance of poly-victimization as a framework through which to evaluate childhood victimization. The previous section established that poly-victimization is a robust predictor of delinquency. This section continues that thought by moving beyond controlling for variables previously associated with

victimization and delinquency. The focus here is to evaluate and discuss if and how using poly-victimization as a predictor variable allows us to be more accurate in our predictions of delinquency.

Relevance of Research Question

Many childhood victimization studies conclude that we need to rethink interventions, but few specify how. I specifically seek to determine if the effect of child maltreatment and sexual abuse on child problem behavior is stronger than poly-victimization. This is important because it might lead us to determine if a narrow focus on acute and extra-ordinary childhood victimizations or a wide focus on the full spectrum of childhood violence experience is a more appropriate strategy to reduce violence perpetrated by and against children.

Hypothesis

It is hypothesized based on previous studies (Robboy & Anderson, 2011; Richmond et al., 2009) that poly-victimization would contribute a significant proportion of variability beyond that already accounted for by each of the victimization categories evaluated in this dissertation. It was also hypothesized that the predictive power of most, if not all, of the victimization categories evaluated would be diminished to the point of losing significance with the addition of poly-victimization in the last model. A study evaluating the effect of PTSD on suicidal ideation found no direct relationship when poly-victimization, depression, and gender were controlled for. In other words, poly-victimization fully mediated the relationship between PTSD and suicidal ideation (Betts, Williams, Najman, & Alati, 2013a). Another study evaluating the effect of categories of childhood victimization on college adjustment found that poly-victimization accounted for a significant proportion of college adjustment score above and beyond that accounted for by six categories of childhood victimization alone. The predictive power of PV

persisted when all six categories were simultaneously added into the model. These findings reinforce the hypothesis that PV would predict delinquency above and beyond other categories of victimization. Results, however, were not entirely consistent. Based on at least one article, the results are mixed making the empirical question all the more interesting.

Data Analysis

Hierarchical logistic regressions were conducted to evaluate the relative contribution of poly-victimization on delinquency and determine if poly-victimization's predictive power persists after accounting for categories of victimization, namely property crime, physical assault, child maltreatment, kidnapping, bullying, online victimization, and indirect exposure to family, school, and community violence. To address this question, 30 sets of hierarchical logistic regressions were conducted predicting any delinquency above and beyond each of the 10 categories of victimization, overall and by gender. Control variables (age, race/ethnicity, household income, family structure, lifetime adversities, and a diagnosis of conduct or oppositional defiant disorder) were entered in the first step to account for any delinquency that can be explained by these known correlates. Each of the victimization categories were entered in the second step (one at a time) to determine how much delinquency can be accounted for by victimization after controlling for the above listed correlates. Poly-victimization was entered last, the most disadvantaged position in terms of predictive abilities, to determine if the model can be improved by its addition.

Unlike the binary logistic regressions ran and discussed in the previous chapter, this set of analyses used the sum of items version for poly-victimization and each of the aggregate victimization measures. The odds ratios reported in this section are therefore different. This is not a point of contention however, as the focus of this chapter is not to discuss the increased

probability of engaging in delinquency given exposure to a particular type of victimization. That objective was met in the previous chapter. The focus of this chapter was rather to evaluate whether or not our delinquency prediction models are improved once poly-victimization is included in the analysis. To this point, table 23 details two sets of results. The first were used to determine if and how the amount of variance explained improves in steps 2 and 3 by summarizing changes in Nagelkerke (Pseudo) R^2 , as compared to the model with just controls and as compared to the models with and without poly-victimization. The second allowed us to determine if victimization continues to be a significant predictor after the addition of poly-victimization in the hierarchical logistic regression models.

Results-Variance Explained Overall

Overall, 21% of the variance was accounted for by age, race/ethnicity, total household income, family structure, lifetime adversities, and a diagnosis of conduct or oppositional defiant disorder. The variable gender was not entered in the analysis as a control variable, but rather analyses were ran separately for boys and girls.

Adding Victimization to Controls (Step 1 to Step 2). On average, the addition of each victimization category improved our ability to predict delinquency by 3.6 percentage points (from step 1 to step 2). Kidnapping explained very little variation beyond the control variables. It improved the model by less than 1 percentage point for both boys and girls. Looking across the first two rows of Table 23, we can see that overall physical assault had the greatest improvement in variance explained. Overall, when physical assault was added to the model, we were able to explain 30.5% of the variation in delinquency, as compared to the 21% explained by the model containing just the control variables. This is a percentage difference of 9.5 points, which reflects a 45% improvement in the overall model. The pattern persisted across gender, as

physical assault was responsible for the greatest increase in variance explained for both boys and girls, 8.6 and 7.6 percentage points respectively. Property crime was the second strongest predictor overall. When property crime victimization was added, the model improved by 31%, which reflects a 6.6 percentage points increase. When looking at the data by gender, we can see that property crime had the second greatest influence on the model for boys, followed very closely by exposure to community violence. This was not the case for girls. For girls, adding sexual victimization had the second greatest impact on model efficiency.

Adding Poly-victimization to Victimization (Step 2 to 3). On average, adding poly-victimization after each of the 10 different victimization categories, improved our prediction abilities by approximately 9 percentage points. Looking down the column of the R^2 changes, we can see that the increase in variance explained ranged from a low of 3.3 percentage points (for physical assault) to a high of 12.1 percentage points (for kidnapping), indicating that adding poly-victimization improved our delinquency prediction models by an additional 16% to 58%. Substantial prediction improvements (greater than 50%) were found for child maltreatment, kidnapping, and online victimization. Changes in pseudo R^2 by gender showed similar patterns.

Adding Poly-victimization and Victimization to Controls (Step 1 to 3). On average, the inclusion of poly-victimization along with each of the 10 different types of victimization variables improved our prediction by 12.7 percentage points. This is approximately a 3.5 fold increase in variance explained from step 1 (just controls) to step 3 (each victimization type and poly-victimization). The overall improvement from step 1 to step 2 is less than the improvement noted from 1 to 3, but it is still substantial (8.9 vs. 12.7 percentage difference) as it reflects a 2.5 fold increase. Looking down the right-most column under R^2 change in Table 23, we can see that model 3, in comparison to model 1, shows very little variation for variance explained. The

variance is very tight, ranging from 12.5 to 13-percentage points. Patterns by gender were very similar.

Results-Statistical Significance

Not surprisingly, given results detailed in the previous chapter, all categories of victimization significantly predicted delinquency. For all categories, odd ratios were diminished when poly-victimization was entered into the model, six to the point of non-significance. Only physical assault, child maltreatment, sexual victimization, and exposure to family violence remained significant in step 3 for the overall sample. Number and types of victimizations that retained significance varied by gender. For girls, only two victimization categories remained significant, online victimization and exposure to family violence. For boys, four categories remained significant predictors, child maltreatment, sexual victimization, exposure to family violence and exposure to community violence. The only category that remained a significant predictor for both was indirect exposure to family violence.

Victimization improved our ability to predict delinquency, but poly-victimization improved our predictive abilities above and beyond that. We were able to explain the greatest proportion of variation in delinquency when we considered both concurrently. This indicates that total count of victimization experiences is important in predicting delinquency, but that our predictions might be further improved by considering specific types and, perhaps more importantly, certain characteristics of the different types of victimizations our youth are subject to. These results combined allow us to conclude that when trying to determine and provide services to youth that engage in delinquency, taking into consideration their victimization experience is important.

Discussion

The overall objective of this chapter was to determine whether or not poly-victimization is a stronger predictor of delinquency than other categories of victimization. The practical objective was to contribute to the debate regarding which children need to be prioritized for program and services given that we operate in a world with limited resources. Results suggest that poly-victims, at least as it pertains to delinquency, make up the group with “the highest priority need”.

The explanatory power of poly-victimization, in comparison to individual types of victimizations, has been evaluated in a variety of ways. Results indicate that with very few exceptions poly-victimization is a stronger predictor of a variety of adverse effects. More specifically, ongoing, cumulative exposure to violence and adversities has been found to be more strongly associated with psychiatric and behavior symptom impairments than any single type of victimization (Ford, Gagnon, Connor, & Pearson, 2011). Six different categories of childhood victimization contributed little to no variability in college adjustment beyond that accounted for by poly-victimization when poly-victimization was introduced first in the model. Alternatively, when poly-victimization was added last, the most disadvantaged position in multivariate analyses, it was shown to improve the predictive ability of any single type of victimization as well as their cumulative predictive ability (Elliott et al., 2009). These results were not limited to college adjustment, nor were they limited to adult, female, college students. The predictive power of poly-victimization above and beyond individual victimizations was also found when evaluating its effect on ill health (e.g. obesity) and trauma symptoms (i.e. anxiety, depression and PTSD) (Cater et al., 2014). This time in a non-US-based study using 11 instead of 34

Table 22 Hierarchical Logistic Regression Analysis of Victimization (step 1) and PV (step 2) in a National Sample of Youth (n=6366); Delinquency Overall

Victimization Category		Males						Females						Overall					
		Odds Ratio	Sig	Pseu R ²	R ² change			Odds Ratio	Sig	Pseu R ²	Step 1 to 2	Step 2 to 3	Step 1 to 3	Odds Ratio	Sig	Pseu R ²	R ² change		
					Step 1 to 2	Step 2 to 3	Step 1 to 3										Step 1 to 2	Step 2 to 3	Step 1 to 3
Control Variables Only	Step 1			23.1					20.5						21.0				
Property Crime	Step 2	1.6	***	29.0	5.9	5.8	11.7	1.7	***	26.5	6.0	7.0	13.0	1.7	***	27.6	6.6	6	12.6
	Step 3	1.0	ns	34.8				1.1	ns	33.5				0.1	ns	33.6			
Physical Assault	Step 2	1.4	***	31.7	8.6	3.1	11.7	1.5	***	28.1	7.6	5.3	12.9	1.5	***	30.5	9.5	3.3	12.8
	Step 3	1.0	ns	34.8				1.0	ns	33.4				1.1	**	33.8			
Child Maltreatment	Step 2	1.6	***	24.5	1.4	10.7	12.1	1.8	***	24.0	3.5	9.6	13.1	1.6	***	22.9	1.9	11.1	13.0
	Step 3	0.7	**	35.2				0.8	ns	33.6				0.7	***	34.0			
Sexual Victimization	Step 2	2.6	***	27.8	4.7	7.4	12.1	1.8	***	26.8	6.3	6.8	13.1	1.8	***	25.1	4.1	8.5	12.6
	Step 3	1.4	**	35.2				1.2	ns	33.6				1.2	***	33.6			
Kidnapping	Step 2	1.8	*	23.4	0.3	11.4	11.7	1.8	***	21.3	0.8	12.2	13.0	1.7	***	21.5	0.5	12.1	12.6
	Step 3	0.8	ns	34.8				0.8	ns	33.5				0.7	ns	33.6			
Bullying Victimization	Step 2	1.6	***	25.5	2.4	9.4	11.8	1.9	***	25.0	4.5	8.4	12.9	1.6	***	23.9	2.9	9.7	12.6
	Step 3	0.9	ns	34.9				1.1	ns	33.4				0.9	ns	33.6			
Online Victimization	Step 2	2.2	***	24.1	1.0	10.7	11.7	2.4	***	25.1	4.6	8.8	13.4	1.9	***	22.7	1.7	10.8	12.5
	Step 3	1.2	ns	34.8				1.4	**	33.9				1.1	ns	33.5			
Exposure to Family Violence	Step 2	1.3	***	25.3	2.2	9.8	12.0	1.3	***	24.0	3.5	9.7	13.2	1.3	***	23.6	2.6	10.3	12.9
	Step 3	0.9	*	35.1				0.9	*	33.7				0.9	***	33.9			
Exposure to School Violence	Step 2	1.7	***	25.9	2.8	9.0	11.8	1.6	***	22.9	2.4	10.5	12.9	1.7	***	23.7	2.7	9.9	12.6
	Step 3	1.1	ns	34.9				1.1	ns	33.4				1.1	ns	33.6			
Exposure to Community Violence	Step 2	1.7	***	28.9	5.8	6.1	11.9	1.6	***	25.2	4.7	8.2	12.9	1.7	***	26.6	5.6	7.0	12.6
	Step 3	1.1	*	35.0				1.0	ns	33.4				1.1	ns	33.6			
Average R2 change					3.5	8.3	11.9				4.4	8.7	13.0				3.81	8.87	12.68

Note 1: Step 1 includes control variables. Step 2 adds victimization category (sum of items) Step 3 adds poly-victimization variable (sum of items)

Note 2: Step 1 Pseudo R² overall = 21.0. Step 1, Pseudo R² for males = 23.1. Step 1, Pseudo R² for females = 20.5

Note 3: Abbreviation Pseu R² = Pseudo R²

victimization indicators; a substantially larger (n=2500), nationally representative, community sample, as opposed to a convenience one (n=321); and a telephone interview conducted with specially trained individuals, as opposed to a self-administered survey (Cater et al., 2014). While these two studies cover a wide array of methodological considerations, what they both have in common is that they are based on adult, retrospective, self-reports. It is therefore important to conduct studies based on representative samples of minors. This was a gap in the literature addressed by this dissertation

The results of this chapter are very much in line with most of the poly-victimization literature that focuses on the issue of determining the strongest predictor of adverse outcomes. Overall, 21% of the variance in reported delinquency was accounted for by the age, race/ethnicity, total household income, family structure, lifetime adversities and a diagnosis of conduct or oppositional defiant disorder. Adding poly-victimization in the model, statistically speaking the most disadvantaged position, improved our prediction models substantially. It also diminished the odds ratio to the point of non-significance for six out of the 10 victimization categories evaluated. Some gender differences were noted, but overall, physical assault, child maltreatment, sexual victimization and exposure to family violence remained significant after the addition of poly-victimization.

Overall, poly-victimization has been shown to improve prediction of psychiatric and behavior symptom impairments, college adjustment, obesity, trauma symptoms, and now delinquency. These results together provide support for the fact that poly-victimization is a robust predictor of adverse effects and therefore merit special attention both in research and in

practice. The focus should not be on acute and extra-ordinary victimizations exclusively, but rather the co-occurrence of pandemic, acute and extra-ordinary victimizations.

Chapter 7: Secondary Analysis-Discussion

Part II of this dissertation was specifically interested in testing the relationship between poly-victimization exposure and delinquency perpetration. The results of this study echo the fact that victimization in childhood is a common phenomenon. Findings parallel the rates reported in nationally representative studies as well as official statistics. One of the important contributions of studies that focus on a wide range of victimizations is that it evaluates what are termed pandemic and extraordinary types of victimizations concurrently. Pandemic victimizations are defined as incidents that occur often and to a large number of individuals such as peer and sibling victimization, while extraordinary victimizations are defined as incidents that occur to a relatively small portion of the population such as sexual assault. The results of this study lead me to conclude that no single form of victimization should dominate the discourse when it comes to their effect on delinquency, which directly speaks to the practical relevance of this dissertation. There is a need to move away from studies and interventions that focus on only one type of victimization and towards evaluations and policies that address children's experience with victimization in a comprehensive manner. This is not an argument against addressing the issues that bring about and stem from family violence or sexual assault. These are clearly significant social problems. It's more an argument for incorporating other forms of victimizations routinely perceived as less problematic. Via this dissertation, I was able to determine that exposure to multiple types of victimization was relatively common among adolescents; that poly-victimization predicts all types of delinquent behaviors and that poly-victimization was among the strongest predictor of delinquency.

Policy and Practice Implications

This study aimed to provide evidence-based knowledge to parties involved in proposing and modifying policies and practices related to juvenile justice and child well-being. It was specifically designed to expand our understanding of the relationship between childhood victimization and delinquency with a focus on poly-victims, the subset of children who are exposed to a disproportionate number of criminal offenses and non-criminal transgressions. This experience has been shown to be significantly different than exposure to the same type of victimization multiple times. Results lead me to make the following policy and practice recommendations.

Broad Focus: Recognizing that a substantial subset of the population is exposed to a broad range of victimization requires that effort be made to carry out a more comprehensive and realistic evaluation of children's exposure to violence, not just in research, but also in practice. Comprehensive treatment should target a range of behaviors because focusing intervention efforts on a single form of victimization may not address the needs of most highly victimized children. Effective interventions should also address practical barriers to treatment completion such as employment, transportation and child care. Those who are employed may encounter time restrictions that interfere with their ability to receive the treatment/intervention. Whenever possible treatment programs should be available beyond the "normal business-hour schedule". Those who are not employed may not be able to afford the treatment/intervention. Whenever possible treatment/program fees should be based on income. Referrals to transportation programs and resources should be made to everyone, but in particular to those who have limited access to transportation. Whenever possible family-friendly accommodations should be made so that

poly-victimized youth and young adults who have children do not refrain from receiving the interventions needed to address their concerns and subsequently the concerns of their children.

Better Screening Processes and Instrument(s): In order to make effective policy decisions, we need to be able to understand and identify which children are at highest risk of victimization and its consequences. The findings of this study provided evidence for the need to better identify poly-victimized children and youth. This identification process may best be achieved by using an assessments instrument, such as the JVQ, to thoroughly assess multiple categories of victimization. The need to systematically and broadly assess victimization, however, needs to be balanced with the budgetary, staffing, and time constraints that practitioners encounter on a day to day basis. Researchers needs to be able to empirically determine the number and types of victimizations that are necessary to include in an assessment instrument to identify poly-victimization during an initial or preliminary contact. These efforts, however, should not be carried out without practitioner input.

Interagency Collaboration: An adequate intervention to address the broad nature and complex issues that stem from victimization and delinquency will require many different areas of expertise. Policies should be geared towards developing effective information sharing protocols and technologies, developing expedited referral systems, and enhancing working relationships among researchers, service providers, and policy developers. Agencies that could benefit from these types of collaboration include children's advocacy centers, juvenile detention centers, psychiatric hospitals, and police departments. Continued fragmentation will limit our ability to effectively respond to two significant social problems, childhood victimization and juvenile delinquency.

Trauma and Child Abuse Training: Housing specialized trauma units within the criminal justice system, social service agencies, the medical community and the education system seem to be an important structural change that needs to be discussed, organized, and funded throughout the United States. If specialized trauma units are not feasible due to budgetary or staffing limitations, it may be beneficial to provide special training to professionals in the medical, education, and law enforcement fields in order to better identify, respond, and refer poly-victimized children to pertinent agencies and services. In this way, we can better reduce the impact of violence and victimization on these children. A possible example comes from the medical field, which introduced child abuse pediatrics as a subspecialty that requires formal training, job performance responsibilities, accreditation and continuing education (Block & Palusci, 2006). These specially trained pediatricians gather medical history, review medical reports, labs and diagnostic imaging procedures. They often take part in multidisciplinary groups put together to investigate child abuse cases and testify in court. As such, they serve as resources for children, families, service agencies and communities. Efforts to educate the professional force could also take place within higher education institutions. Child maltreatment, childhood trauma, and/or poly-victimization courses can be created and taught at colleges and universities. Courses on these topics are traditionally taught as electives and should be open to all fields of study, but higher education institutions should start to consider making one of these courses part of the core curriculum for students in nursing, sociology, criminology, psychology, and social work. Additional core instruction on childhood victimization could also take place during medical school and residency as surveys have shown that pediatric residents receive insufficient training in the evaluation of child abuse and neglect (Block & Palusci, 2006).

A False Dichotomy: Although the focus of this dissertation is juveniles, this is not an argument for discarding the systematic evaluation of the victimization experiences of younger children. The facts are that poly-victimization has been documented across the spectrum of childhood. Numbers and types vary as detailed above, but the characteristics and dynamics associated with victimization are the similar across the lifespan. A US based study that specifically sought to determine if the victimization profiles of poly-victims varied by age reported that the most victimized children in each developmental stage were considerably more likely to be distressed and have higher levels of other adversities (Finkelhor, Shattuck, et al., 2011). Younger children should not be ignored in future studies. For these younger children, interventions in schools and in the community should take into consideration their level of development. Whenever pertinent treatment plans for victimized children should also incorporate parental involvement. To these points, a meta-analysis of 93 controlled outcome studies published between 1953 and 2000 found that the use of play therapy with parents produced the largest positive effect (Bratton, Ray, Rhine, & Jones, 2005).

Family Reintegrating: Special reintegration considerations should be taken for poly-victimized children and youth who are in-patients and/or are removed from the home because of their victimization. Research has shown that it is very likely that children and adolescents' victimization started in the home; coming back to the place where it all started can be re-traumatizing. Parent training on effective disciplinary techniques, appropriate child development expectations, and parenting after trauma can help the re-integration process. Parental assessment of trauma should also take place in order to determine if and how the parent's own trauma and victimization experiences affects their ability to parent a poly-victimized and/or delinquent juvenile. Families with intergenerational trauma and victimization should be prioritized, as the

interpersonal interactions of the traumatized parent with the traumatized child can be a precipitant for further victimization. The focus of family reintegration interventions should be on building up parent-child attachment as a multilevel meta-analysis of 74 papers found that parental attachment, and in particular attachment to mothers, had an effect on juveniles' delinquency involvement (Hoeve et al., 2012).

Building Up Protective Factors: Efforts to build up protective factors for poly-victimized youth should be incorporated in all treatment plans. Poly-victimized youth need to be able to ask for help. Efforts to increase victimization disclosure and support systems are therefore important. We have no empirical evidence documenting the disclosure rates of poly-victimized youth, which is an important gap in the literature that needs to be addressed in future studies. However, we have some empirical support for arguing that severely victimized youth are less likely to disclose their victimization, as compared to children who are moderately victimized (Glover et al., 2010). Understanding that poly-victimized youth are among the most severely victimized individuals, we could conclude that they may struggle with disclosure. Until we have the empirical evidence to support otherwise, efforts should be made to improve children and youths' confidence in the different systems designed to respond to their violence exposure so that disclosure rates can be as high as possible.

Manifest vs. Latent Symptoms. It can be argued that the aggression and delinquency associated with poly-victimization are a manifest rather than a latent symptom. It is possible that underneath the surface of toughness lies a very insecure and vulnerable adolescent. It is also possible that victimized children and youth provoke physical pain by engaging in delinquent behavior in order to reduce the emotional pain they are experiencing, which is sometimes harder to deal with. Given these dynamics, it's important that law enforcement, school personnel and

parents/guardians be trauma-informed in order to identify and respond to the sometimes-counterintuitive ways in which victimized children and youth deal with their victimization experiences and how delinquency may play a part in the story.

No Quick Fixes. It's important that policy makers, practitioners and family members are made aware that the complex symptoms associated with poly-victimization require prolonged treatment and follow up. Treatment plans need to take into consideration not just the presenting symptoms, but the underlying causes of the symptoms. There are no "quick fixes". Treatment plans need to be complex and intensive enough to address the attitudes and beliefs constructed because of poly-victimization. For example, poly-victims who are victimized in a variety of settings (i.e. home, school, community and online) may come to understand their victimization as an inescapable condition, which may in turn precipitate the "fight" response associated with prolonged stress exposure and therefore ineffective emotional regulation. This emotional dysregulation could manifest itself in delinquent behavior. Programs that are designed to "change" delinquent behavior therefore need to understand that there are cognitive, attitudinal, and perceptual processes that need to be addressed in order for the manifest behavior, in this case delinquency, to change. These changes require a certain degree of readiness to change, trust-building between practitioner and adolescent and continual thought reconstructions, all of which require time.

Multiple Phases. It is also advisable that treatment be carried out in multiple phases where the first phase focuses on establishing a safety plan. The second phase focuses on managing emotional dysregulation with emphasis on reducing anger, frustration, and depression which can lead to a variety of inappropriate coping techniques in the form of delinquent behavior. The third phase focuses on identifying strengths and building skills that help the

individual prevent future victimization and minimize the adverse effects of the victimizations previously experienced (Geffner, 2018). It is unlikely that attitudinal, cognitive, and behavioral changes can be achieved if a child is not safe and mismanaging his/her emotions.

Prevention Efforts. Although most of the policy and practice implications discussed are based on responding to the needs of children who have already been victimized, a combination of prevention and intervention efforts is best. Non-victimized children who are at risk of victimization can benefit from interventions or instructions that target their strengths, identify and building up protective factors, and encourage disclosure of experienced and witnessed victimization. Efforts can be focused on cultivating academic achievement, building relationships, maintaining social support, and participating in extra-curricular activities.

Limitations

Despite these contributions to the field, results need to be interpreted in context. To aid in this process, please note the following limitations.

Limited by Cross-Sectional Design. This study is subject to limitations common to cross-sectional, retrospective, self-report studies that collect data from a single source; namely the potential for reporting and recall bias, the possibility that important correlates were omitted, and our inability to establish temporal ordering and therefore causality. I propose that poly-victimization has an effect on delinquency, but I am making this argument based on cross-sectional data. The argument could also be made in the opposite causal direction. The documented bi-directional relationship between victimization and delinquency make one-directional hypotheses problematic. There are two characteristics of the NatSCEV, however, that have allowed us to partially address this issue. Temporal ordering was simulated by analyzing the effect of *lifetime* victimization on delinquency in the *past year*. Despite these

accommodations, it is important that future studies employ a longitudinal research design as strong associations based on cross-sectional studies do not necessarily equate to strong prospective associations (Leach et al., 2016).

Limited to Analyzing the Presence or Absence of Delinquency. Despite the wealth of information available for victimization in the dataset used, one of the limitations of this dissertation is that it is unable to assess if the effect of poly-victimization on delinquency varies by characteristics of the delinquent behavior itself. Each victimization item has a series of follow up questions that allow us to assess differences based on characteristics of the victimization. Follow-up questions for the delinquency items, however, are not available. The proposed dataset contains a standard delinquency measure composed of items that can be categorized into property damage, theft, assault, school misconduct, disturbing the peace, possession of a weapon and drug and alcohol use. Analyses based on categories of delinquent behavior could therefore be rich. However, I am unable to explore analyses related to how often poly-victims engage in delinquent behavior (frequency), whether it resulted in injury (severity), whether it was perpetrated against an adult, peer, or stranger or whether it was reactive (often considered normal) or proactive (often considered predatory). These limitations should be addressed in future research projects.

Limited to Childhood Victimization. The current study is based on the assessment of childhood victimization which is certainly a worthwhile effort and target group, however, multiple studies have shown that interpersonal victimizations start out in childhood but continue into adulthood (Coetzee et al., 2017). It may be worthwhile to conceptualize, measure, and operationalize poly-victimization based on childhood and adulthood victimization experiences together. This was attempted in a study that empirically constructed poly-victimization using

latent class analysis (Burns et al., 2016), but it was limited in that it only employed eight victimization items. It may also be worthwhile to explore why, how and for whom victimization experiences are limited to childhood and why, how, and for whom victimization continues into adulthood. A potentially interesting research question is how childhood-only poly-victims, differ from adulthood-only poly-victims and how do both differ from individuals who meet criteria for poly-victimization based on their experiences with violence in childhood and adulthood.

Ignores Bio-social Factors. The current study is strictly focused on the effect of a social experience (victimization) on another social experience (delinquency). It ignores the literature that documents the interaction between traumatic experiences, in our case, interpersonal victimizations, and biological/genetic processes (Comasco, 2015; Cecil et al., 2016). One of the studies reviewed in the second chapter of this dissertation found that biological processes mediated the relationship between different types of maltreatment and poor mental and physical health. The extent to which these biological changes were associated with maltreatment varied by type, with physical maltreatment having the strongest association (Cecil et al., 2016). It may be beneficial to include biological/genetic indicators in future evaluations of poly-victimization such as brain function, structure and volume post trauma exposure. This is particularly important given the fact that our logistic models were only able to account for about a third of the variation in delinquency, indicating that there are additional factors that we need to consider in order to make better predictions about risk and better decisions about treatment.

Ignores Community and Social Level Factors. Along the same thought, this study is limited in that it predominantly ignores community and societal level factor although criminological theories have linked crime and deviance to factors outside the individual and his/her personal experiences. The socio-ecological model argues that different levels of

influence should be considered when evaluating human behavior. One study known to the author has attempted to incorporate the socio-ecological model into its evaluation of poly-victimization, but this study is strictly descriptive and is not based on a nationally representative sample (Sterzing et al., 2017). Our understanding of poly-victimization and delinquency can be improved if future studies consider the different and yet interacting levels of influence.

Uses Pseudo R-square. Delinquency, in this study, was positively skewed. It was therefore decided to transform the variable into a dichotomous measure and run hierarchical *logistic* regressions to answer the question regarding the predictive abilities of poly-victimization. Not doing so would lead us to violate one of the basic assumptions of linear regression. Studies that have previously evaluated the strength of poly-victimization have predominantly done so based on an interval/ratio level variable and so they used hierarchical *linear* regression. One of the most essential components of these types of analyses is the evaluation of R-square changes when moving from one regression model to the other. Analyses in the current study had to resort to using Nagelkerke (pseudo) R-square to discuss these changes, which we are supposed to use/interpret with caution. Pseudo R-square is similar, but inherently different from R-square. That said, multiple studies have reported and discussed results based on pseudo R-Squares (Chen & Ling, 2016) much in the same way that they are presented here.

More Confirmatory Data Analysis. We can improve our confidence in our findings by conducting complementary analyses. Our data analysis plan for the question regarding the strength of poly-victimization's predictive power was to add poly-victimization to our regression models last, which is understood to be the most disadvantaged position in any multiple regression model. Our results indicated that poly-victimization improved our prediction model

above and beyond other victimizations even in this most disadvantaged position. Confirmatory analyses can be done, however, in two additional ways. Poly-victimization can be added prior to other victimizations, but after controls. In this way we can account for any delinquency that can be explained by correlates such as age, race, family structure, conduct disorder and lifetime adversities. By adding any victimization (and each aggregate victimization category) in the last step we can determine if any category of victimization can explain/predict delinquency above and beyond that explained by poly-victimization. These victimization aggregates can be added one at a time which will allow us to determine if any specific type of aggregate victimization category explains delinquency above and beyond poly-victimization. We can also add it as a block. Doing this will let us evaluate both the cumulative and unique contribution of victimization types. Cumulative because we'll be able to compare and report on the total variance explained in the model in step 2 as compared to the block model described in step 3. Unique because we'll be able to compare and report on the likelihood of engaging in delinquency net of controls, poly-victimization, and each of the victimization aggregates. Lastly, we can also run poly-victimization and all the victimization categories together and see which independent variable has the greatest influence on delinquency, net of all other variables. If results are consistent across method, then we can be more confident in our results.

Making Finer Distinctions (Subcategories of Delinquency). In the context of the same research question, it may also be beneficial to go beyond evaluating delinquency overall and do separate analyses for property and personal crimes. Another important distinction might be deviant behaviors directed at self (such as drug use and abuse) and deviant behaviors directed at others (such as property and personal crimes). With a more varied delinquency measure, we could also look at differences in perpetrating against others in-person as compared to online.

Limited to Self-Reports. It may be argued that the use of youth self-reports in this study is a limitation. This is partly due to the sensitive nature of the questions asked. It may be that children lie about their victimization, particularly for what are perceived to be the most sensitive and stigmatizing victimization experiences, namely child maltreatment and sexual victimization. Future studies can address this issue by incorporating multiple respondents in their data collection strategies. Very few studies use multiple informants, but triangulation has been found to be useful. One of the studies identified via our systematic search used multiple informants to gain information on adolescents' experiences with childhood maltreatment and the experiences of their mothers with intimate partner violence (Kaslow & Thompson, 2008). Unfortunately, the use of multiple informants here does not translate to triangulation as parents reported on their IPV experience and children reported on their child maltreatment experience, concurrently, but separate. If overcoming the issue of solely depending on the youth's ability to recall early childhood victimization experiences, then using multiple respondents to assess the same experience might be a worthwhile effort. This may also help inform the discussions regarding the usefulness of proxy interviews, as this would be a more direct way to test congruency among respondents. Like studies based on the Conflict Tactics Scale, it may be good to ask symmetrical questions of both parent and child.

Ignores Respondent's Perception of Their Traumatic Experiences. Another possible limitation of all poly-victimization studies, including the current one is ignoring the respondents' perception of their traumatic experiences. Some of the things to consider here are the respondent's perception of which traumatic experience was the most consequential or "worse" for them. The focus of this dissertation was poly-victimization; as such, it was methodologically important to separate non-victimizing lifetime adversities from interpersonal victimizations.

However, while methodologically logical, this line of thought might be practically flawed. Two studies found that when asked to report their worse trauma, the greatest number of respondents said death of loved one. This applied to “only” 25% of the sample in a Canada-based study of adults with at least one confirmed childhood traumatic experience. However, this is substantially larger than the percentage of respondents who said their worst traumatic experience was sexual assault by force. Approximately 9% reported this as their worst traumatic experience (Charak et al., 2016). Understanding that this might reflect the fact that death of loved is much more common than forced sexual abuse, I looked up the rate of child sexual abuse reported by this sample and it turns out that 63% reported a childhood sexual victimization, 44% of which were affirmed an attempted or completed incidence of rape. The second study was also based on a clinical sample of adults, this time out of Australia. They were asked to endorse whether they had experienced 11 different traumatic incidents. They were subsequently asked to nominate their worst traumatic experience and answer a series of follow up questions to assess its effect on partial and full PTSD. The authors reported that boys and girls most commonly nominated the “non-interpersonal traumatic event” category as their worst recorded trauma. This is arguably in contrast with studies that have reported that interpersonal traumas were often associated with more complex symptoms than non-interpersonal ones (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). This issue is more complicated since it is not simply about the percent of respondents who endorsed a particular type of victimization or trauma, but rather it is the percent of respondents with that category of event.

In the current study, lifetime adversities were controlled for, but not reported or discussed. It’s recommendable that future studies consider both interpersonal and non-interpersonal traumatic experiences, possibly as two separate measures that are analyzed

concurrently. The cumulative, unique and interactive effects of these two types of traumatic experiences are important if we are truly interested in understanding and therefore helping the individuals who are affected by both.

The other thing to consider is the motivation the respondent attributes to his/her perpetrator. Except for studies that include one or two items that measure biased attack, there are virtually no studies that try to understand how the effect of victimization (or in our case, poly-victimization) is affected by the victim's understanding of the perpetrator's motivation and yet this has been shown to be very important. Future studies should consider adding a follow up question that measures victim's understanding of perpetrator motivation.

Ignores Inter-Generational Component of Violence Exposure. Multiple studies using multiple methodologies and different samples have made connections between the violence exposure of one generation (e.g. parents) to the violence exposure of the next generation (e.g. their children). This perspective, however, is lacking in the poly-victimization literature and should be considered in future studies. This goes beyond determining persistence of poly-victimization over time, say from one year to the next (D. Finkelhor, R. K. Ormrod, et al., 2007c). It also goes beyond determining persistence of poly-victimization across an individual's lifetime, say from childhood into adulthood. Only one study known to the author has attempted to incorporate an intergenerational component to the poly-victimization framework (Robboy & Anderson, 2011). This study is a great first step in this direction, but it's limited in that it focuses on first generation child sexual abuse survivors and the likelihood of their children experiencing poly-victimization. It found that the children of child sexual abuse survivors were more likely to experience poly-victimization in their own childhood than children whose mothers had not been abused. It's about trying to determine if poly-victimized parents are more likely to raise poly-

victimized children and if so, which criminological perspective explains the greatest amount of variation? From the socio-ecological perspective, is most of the variance explained by individual, familial, relational, community, or societal level factors? Once these questions have been answered, it would be beneficial to empirically determine the mechanisms that perpetuate (if applicable) patterns of intergenerational poly-victimization. The goal is to determine if and how the effects of poly-victimization persist for generations. If so, responses to poly-victimization need to go beyond addressing the needs of the individual before us and move into addressing the needs of the family in the context in which they find themselves.

Limited to Comparisons Between groups. Another limitation of this study is that it focuses on summarizing differences *between* poly-victims and non-poly-victims and yet there might be differences *within* chronically victimized youth that merit attention. Some studies have made finer differentiations by comparing non-poly-victims to low and high poly-victims. Other have made comparisons across non-victim, victim, and poly-victims (L. Soler et al., 2013), but the focus is still differences *between* groups. Researchers need to shift their attention to looking at differences *within* poly-victims. Not all poly-victims struggle with mental illness, develop psychiatric symptoms, commit crimes or attempt suicide. Our ability to understand why poly-victimized children do not resort to behaviors that harm themselves or others might help us develop studies that allow us to test the dynamic protective factors present in non-struggling poly-victims. Knowing this information will allow clinicians, practitioners, schools, and policy makers to determine the types of skills, conditions, and/or relationships that need to be emphasized and prioritized in primary, secondary, and tertiary intervention programs. In this way, we can improve our understanding of factors that contribute to healthy child development and how to best prevent the adverse effects of violence exposure in childhood.

A potential research question is, how do offending poly-victims differ from non-offending poly-victims? It's important that our questions begin to shift in this direction because there is ample evidence to understand that poly-victimization is not a unidimensional phenomenon. The research objective could be to determine if demographic, familial, and community level factors differ for multiply victimized youth who engage in delinquent behavior and multiply victimized youth who do not. Practically speaking, the answer to this question (and others like it) could help us address the need for specific intervention recommendations, as the results of this section will explicitly inform practitioners, policy-makers and clinicians on the factors and characteristics that should be considered and addressed moving forward.

Ignores follow-up questions. Another limitation of the current study is that it fails to incorporate the series of probes that follow each victimization item endorsement. Incorporating just a few of these follow-up questions in future studies and analyzes will allow us to incorporate victimization characteristics beyond types into our understanding of poly-victimization. This in turn, will allow us to have a richer understanding of the victimization experiences of poly-victims and non-poly-victims alike. Poly-victimization studies have shown that experiencing different types of victimizations is a stronger predictor of adverse effects than repeated experienced of the same kind (D. Finkelhor, R. K. Orrarod, et al., 2007), but what is the underlying force behind this finding? Is it truly the number of types of victimizations or are there specific victimization characteristics, not yet explored, that bring about these robust results? These are questions worth exploring in future studies given that evidence to support this alternative explanation might lead us to conclude that a decade worth of research could be the result of a spurious relationship.

Failed to Control for Measures Related to Criminological Theories. Social disorganization theory, one of the major criminological perspectives, was not controlled in analyzes although the dataset used contains a series of items that measure community disorder, a proxy for social disorganization. A 2016 article reported that while only 7% of non-victims lived in a high disorder community, 49.4% of poly-victims reported living in this type of neighborhood (Turner et al., 2016). It's possible that the results shown above are at least partly due to social forces outside the individual, in this case, community disorder. Future studies should either control for community disorder or test if it moderates the relationship between poly-victimization and delinquency. Self-control is another influential criminological perspective that I could have controlled for. Low-self-control in particular is an important control variable because (1) longitudinal research has shown that low self-control is a significant predictor of both violent victimization and violent offending and because (2) a meta-analysis designed to assess the empirical status of Gottfredson and Hirschi's general theory of crime ranked low self-control as one of the strongest correlates of crime (Pratt, 2010). This limitation is not as pronounced as the one just discussed because the NatSCEV does not contain a formal self-control scale and I would only have been able to control for the "impulsivity" component of the theory using the item that asks youth to say how true it is that they get mad and can't calm down.

Ignores Age of Onset. Studies have shown that the effect of childhood victimization partially depends on the timing of the event. There is no consensus, however, regarding the ways in which timing matters. Results are mixed and difficult to reconcile, making this an area of research that merits a significant amount of attention. NatSCEV asks about "the last time this happened" which is helpful in terms of obtaining data based on the best possible recall. However, I would argue that future studies should focus on evaluating victimization

characteristics based on the “*first* time this happened”. This reference period is more important in terms of discussing the developmental effects of childhood victimization, which is a current need in the poly-victimization literature.

Younger is Worse. Some studies have concluded that the earlier the victimization, the worse the outcomes. Thompson and Tabone, for example, found that child maltreatment experienced prior to age four was associated with greater increases in anxiety, depression and attention problems over time (Thompson & Tabone, 2010). This study is limited, however, in that it’s restricted to child maltreatment (before age 4), but as the poly-victimization literature has shown, children are exposed to a whole host of victimizations apart from maltreatment. This study fails to control, account for, or address any other type of victimization the child is very likely to have experienced. This is particularly salient given findings that demonstrate that multiple victimization is a lot more common than most people realize. In light of research that have reported re-victimization rates that range from 66% (Andrews et al., 2015) to 99% (Bogolyubova et al., 2015) some have argued that re-victimization is the norm rather than the exception. Not taking into consideration other types of exposures is a significant problem.

The authors reported that anxiety, depression, and attention problems (not aggression) grew more pronounced over time and concluded that maltreatment is not simply associated with negative behavioral outcomes in the short-term, but in the long-term as well. This study, however, is also limited in that it only follows adverse effects through age 10. Follow through into adolescence would have been beneficial, particularly in the context of this dissertation. Findings suggest a delayed effect, but it’s difficult to make any conclusive statements as the child could have experienced *additional* victimizations during this time frame and that is what accounts for the adverse effects manifested at age 10.

Thompson and Tabone (2012) did not find a significant relationship between early child maltreatment (before age 4) and aggression, but Manly and colleagues did. They reported that maltreatment beginning as early as infancy (0 to 2) or preschool years (3 to 5) were predictive of aggression level while school-aged maltreatment was not (Manly et al, 2001).

Older is Worse. Others have argued that the effect of *timing* depends on the outcome measure of interest and as it pertains to delinquency, the argument would be that victimization onset among older youth is more likely to lead to problem behaviors, as opposed to mental health related symptoms such as anxiety or depression. Several studies have indeed found an association between late onset maltreatment (in adolescence) and violent behavior (Brezina, 1998; Fagan, 2005). However, there is no absence of studies that also show a positive association of early abuse or maltreatment with externalizing symptoms, adaptive functioning problems and violent delinquency (English, Graham, Litrownik, Everson, & Bangdiwala, 2005; Lansford et al., 2007). Studies that specifically compared the timing of exposure concluded that as children grow older, the effects of violence exposure is more likely to include risky and delinquent behavior (Osofsky, 1999). In support of this perspective, a 2001 study found an association between subjection to abusive parenting practices and aggression in school-aged children, but not in preschool children (Herrenkohl & Russo, 2001). This finding is further supported by a study that compared mutually exclusive victimization experiences further along the spectrum of childhood. It found that adolescent-only maltreatment, but not childhood-only maltreatment, was associated with adolescent delinquency (Thornberry, Ireland, & Smith, 2001).

Given the mixed results summarized above, it is unclear whether or not the timing of violence exposure is specifically related to delinquency or if it's a function of an unmeasured victimization profile. No hypotheses can be drawn from the current literature. Often, the most

interesting (and arguably impactful) research questions are those that can help us reconcile mixed results. That is precisely why future research should focus on this topic.

Limited to Direct Relationships. One of the limitations that applies to both the results of the literature review and the results of the secondary data analysis surround the issue of focusing on almost exclusively on direct relationships. The current study is limited to evaluating the relationship between victimization, more specifically poly-victimization, and delinquency, but much can be gained by evaluating mediating and moderating relationships. This issue is not limited to the secondary data analysis portion, as the systematic literature review found that poly-victimization was evaluated as a mediating or moderating variable in only 3 out of the 61 samples summarized (Andrews et al., 2015; Reidy et al., 2017; Robboy & Anderson, 2011). Studies have begun to look at these relationships. For example, a US based study of adults with childhood poly-victimization experiences evaluated the moderating role of anger in the relationship between poly-victimization and suicidal behavior and found that poly-victims engaged in more suicidal behaviors as a result of stronger associations between anger and suicidal behavior (Charak et al., 2016). Some mediating and moderating variables that can be considered for future studies are: success in school, residential stability, receiving financial assistance, receiving special services at school, medication associated with emotional, behavioral, or learning problems, involvement in sports, teams, or clubs, emotional functioning, social competence, cognitive ability, level of fear experienced during victimization, relationship to perpetrator, and whether or not a grown up, not the perpetrator knows about the victimization.

Ignores interactive effects. The current study, and the poly-victimization literature overall, does a good job at addressing the cumulative and relative effect of poly-victimization, but it ignores if and how the different types of victimizations assessed interact to bring about

specific adverse outcomes in children. One of the studies identified via our poly-victimization literature search attempted to address this issue of moving beyond testing cumulative risk and evaluating the interactive effects of the different types of victimizations children are exposed to. It found that children's psychological functioning is most affected in maltreated youth who were exposed to IPV. Interaction models showed that child maltreatment was related to internalizing distress, externalizing problems, and traumatic stress only when mothers reported higher levels of physical abuse at the hands of their partners (Kaslow & Thompson, 2008). This study, however, is limited in one very significant way. Although it cites poly-victimization articles, including the one that introduced and defined the concept to the field (D. Finkelhor, R. K. O'Leary, et al., 2007), it is not a true poly-victimization study. The study reduces the poly-victimization perspective to exposure to more than one victimization, in this case, only child maltreatment and intimate partner violence. It is advisable that we begin to develop ways to examine the interactive effects of different types of victimizations while simultaneously taking into consideration the broad spectrum of violence exposures some of our children endure. This is partially supported by an ACE-based study that found not just an additive effect, but multiplicative synergistic effects on adult mental illness for specific pairwise combinations of childhood adversities (Putnam, Harris, & Putnam, 2013). The poly-victimization literature needs to take steps towards conducting these types of interactive analyses.

It's important that we understand that children are exposed to violence, crime, and abuse in wide-ranging ways (Finkelhor, Turner, Shattuck, & Hamby, 2015). It's not enough to know that their victimization experiences can start early (onset), occur multiple times (frequency), extend over a long period of time (chronicity) or that this is the case for a large proportion of children in the US and abroad (prevalence). In order to properly understand and address poly-

victimization, our base knowledge on this social issue has to improve. It's not enough to realize that victimization experiences in childhood have been linked to a variety of outcomes that tap into social, emotional, and physical domains. Nor is it enough to know that these outcomes can be severe and long-lasting. We need to take steps towards understanding how different types of victimizations co-occur and figure out ways to tease out their unique, cumulative, and interactive effects in order to more effectively address the needs of our children. The field has done a good job at addressing the cumulative effect of childhood victimizations by way of complex trauma, ACE, and poly-victimization studies. It has contributed a good amount to what we know about the unique effects of victimization via studies that evaluate whether or not poly-victimization is a stronger predictor of adverse effects than other categories of victimizations. However, very few studies have addressed the issue of interactive effects. More work is needed in this area.

Despite excellent work on the mental health effects of poly-victimization, we know significantly less about poly-victims' likelihood of engaging in delinquent behaviors. Only a small proportion of the poly-victimization studies identified by the PI address the relationship between poly-victimization and delinquency, but each has significant limitations that this dissertation tries to overcome by (1) employing a nationally representative sample of youth; (2) using more comprehensive measures of victimization and delinquent behaviors; (3) evaluating more nuanced relationships.

Researchers, advocates, and practitioners have made the claim that even a single form of maltreatment, abuse, or violence against children can have serious, negative effects on the child's social, emotional, and physical health. But there is a significant methodological issue (given the consistent documentation of the co-occurrence of childhood victimizations) that should lead us to reflect on our interpretations of previous research findings. Focusing on one type of

victimization overestimates the influence of the measured victimization and ignores the impact of unmeasured ones (Laia Soler et al., 2013).

Context matters, but a significant contextual factor, the co-occurrence of victimizations, is often unmeasured. The results of prior studies need to be interpreted with a great deal of caution given that the overwhelming majority of studies focus on a specific type of victimization without considering other abusive experiences. Most studies don't ask about other victimizations and those that do, don't always take into account the independent effects of the experiences measured. Not controlling for other victimizations and arguing that the adverse effects measured are the result of the things we do measure is more than just an academic issue. Measuring, analyzing and interpreting results based on a single type of victimization, or two or three, presents a serious methodological issue with practical implications. Broadly assessing victimization experiences is likely to be beneficial to all. This dissertation is attentive and responsive to this issue and broadly assesses victimization in order to speak with more confidence about the effect of poly-victimization on delinquency.

Strengths

One of the strengths of this study is that it simultaneously addresses what are often considered two separate social problems. The evidence provided in this study, however, should lead researchers and practitioners to conclude that these "separate" social problems are rather intricately connected and should be studied and responded to with this inter-relationship in mind.

Ongoing Vulnerability. For some individuals, an on-going pattern of victimization is the norm. It persists over time and doesn't become a thing of the past, as 87% of the children and youth who reported a lifetime exposure in a household-based, telephone survey also reported an exposure in the past year (Finkelhor, Turner, et al., 2009). This is even more evident when we

consider that exposure to one type of victimization in the *past year* doubled and tripled the likelihood of experiencing another one (Finkelhor, Turner, et al., 2009; Finkelhor et al., 2015). These numbers are not restricted or explained away by any sort of recency effect as the same pattern has been reported in studies that evaluate *lifetime* victimization exposures (Finkelhor, Turner, Shattuck, & Hamby, 2013; S. Hamby et al., 2010). One such study, based on a nationally representative sample of children and youth, reported that witnessing partner violence was associated with other forms of maltreatment and victimizations with odd ratios ranging from 1.4 to 9.15 (S. Hamby et al., 2010).

These exposures set into motion a series of internalizing and externalizing responses that have the potential to affect their entire lives via disturbed cognitive processes, beliefs, and relational and behavioral choices. This spillover effect into adulthood is arguably one of the most compelling reasons for studying, preventing and responding to poly-victimization. These experiences don't just affect the individual within a specified period of time, but rather it affects their future thinking, choices and behavior. It doesn't just affect them, but the people whom they interact with now and in the future. It doesn't just affect their ability to initiate and maintain adult relationships, but it also affects their ability to initiate and maintain relationships with their own children. Traumatic events experienced during childhood, therefore, have the potential to impact families for generations, even when these experiences are unspoken or forgotten.

Measures: Includes Online Victimization. Another strength of this study over most of the poly-victimization literature described in part I of this dissertation is the inclusion of online victimization which was lacking in more than 80% of the current literature.

Participants: Focus on The Most Susceptible Group. While not necessarily different from a large proportion of the poly-victimization literature, one of the strengths of this

dissertation is that it focuses precisely on the subset of the population that the literature documents as most affected by crime, violence and poly-victimization.

High Victimization Rates. A large proportion of youth are the target of both direct and indirect violence exposures and the majority of these adolescents are the target of multiple types of exposures. The rates tend to be even more alarming among clinical samples. Researchers have reported that only two percent of female juvenile offenders housed in a long-term facility or group home reported two or fewer victimizations, meaning that 98% of these juveniles had experienced more than two types of victimizations.

Early Onset. Not only were these juveniles more likely to be highly victimized, but their victimization was also likely to have occurred very early on in life. Approximately 25% of this same group of juvenile justice- involved girls, reported experiencing caregiver violence by age 4 (D. D. DeHart & Moran, 2015).

Mean Number of Victimization. The mean number of victimizations during a single year has also been found to increase with age (Finkelhor, Ormrod, et al., 2009a) and therefore more chronic among adolescents as compared to younger children.

More than Younger children. Studies have shown that victimization rates vary by age, with older youth reporting more victimization than their younger counterparts. A Canada-based study that analyzed the past-year, extra-familial victimization rates of a child welfare sample of children and youth, reported a victimization rate of 79% among the youngest children; 85% among 6 to 11-year-olds and 92% among adolescents (Cyr et al., 2012). This age difference has been observed even after considering specific characteristics of the offense such as frequency, type of offense and gender of the victim (Cater et al., 2014).

More than Adults. Juveniles have been described as the most criminally victimized people in society (Finkelhor, 2008). This elevated victimization risk has been found irrespective of data source (NCVS, OJJDP, and UCR) and type of crime (violent crime in general, rape robbery, aggravated assault and simple assault). More specifically, juveniles are 2 to 3 times more likely to experience a rape, robbery or aggravated assault and 3 times more likely to experience a simple assault, as compared to adults and based on a relatively conservative measure of victimization (Finkelhor, 2008).

Victimization Profile. Beyond the numbers, it's reasonable to expect that the victimization profile of older juveniles varies from that of younger children. A 2009 US-based, telephone survey detailed the differences in prevalence rates between older youth and younger children by type of victimization. Older youth were found to report higher rates of lifetime witnessing, theft, emotional abuse, and sexual victimization. Sexual victimization was specifically more common among girls and tended to concentrate in the 14 to 17-year old girls. Witnessing, on the other hand, was significantly greater after age 10. The overall rate was 37.8%, but the rate for older juveniles was 70.2%. Emotional abuse was also highest among 14 to 17-year-olds (D. Finkelhor, R. K. Ormrod, et al., 2007b).

More Poly-Victimization. Poly-victimization has also been shown to be more common among older youth (D. Finkelhor, R. K. Ormrod, et al., 2007; Finkelhor, Ormrod, et al., 2009a; Cyr et al., 2012). This was irrespective of whether age differences were assessed by age (D. Finkelhor, R. K. Ormrod, et al., 2007) or by developmental categories (Finkelhor, Ormrod, et al., 2009a). There are unique developmental demands, differences in access to varied social contexts (home, school, community), and variation in parental supervision among this group that may result in different victimization profiles and experiences (du Plessis et al., 2015). The risk,

prevalence and effects of victimization therefore needs to be evaluated separately from younger children.

Conclusion

In order to create policy and practice initiatives that enhance child development this dissertation takes steps to understand a population of children that have been empirically shown to be among the most vulnerable. The importance of obtaining a more in-depth understanding of the link between poly-victimization and delinquency cannot be overstated considering the practical implications for the criminal justice system, the medical community, the education system, the family and society at large. The victimization experience of children needs to be broadly assessed because that is how it occurs in the lives of many. Effort to improve the lives of these children is not just beneficial to them, but to society. Providing support and services to children who are abused or assaulted should be considered an investment that will be beneficial to all areas of life. Any service or support that helps children overcome childhood victimization and trauma has the potential to: (1) Reduce the adverse effects on the victimized child now; (2) reduce his/her likelihood of being delinquent and therefore hurting someone else, like a peer, now or in the near future, and (3) reduces his/her likelihood of being violent towards their own child in the future as studies have shown that childhood victimization is link to child maltreatment perpetration.

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Appendix A: Systematic Literature Review-Excluded Articles

Articles Excluded at Phase 1: Language Restrictions (Limited to English And Spanish)

1. **Violence and Health** By: Habel, Ute; Wagels, Lisa; Ellendt, Sinika; Et Al. Bundesgesundheitsblatt-Gesundheitsforschung-Esundheitsschutz Volume: 59 Issue: 1 Pages: 17-27 Published: Jan 2016
2. **Sexual Violence And Co-Occurrences Suffered By Children And Adolescents: Study Of Incidents Over A Decade** By: De Oliveira, Jacqueline Reiter; Oliveira Costa, Maria Conceicao; Reis Amaral, Magali Teresopolis; Et Al. Ciencia & Saude Coletiva Volume: 19 Issue: 3 Pages: 759-771 Published: Mar 2014
3. **Offender, Victim, And Society Present Situation of Criminological Victim Research - And Short Report of the 13. International Symposium on Victimology in Mito/Japan (2009)** By: Schneider, Hans Joachim Monatsschrift Fur Kriminologie Und Strafrechtsreform Volume: 93 Issue: 4 Pages: 313-334 Published: Aug 2010
4. **The Crime Victims Yesterday and Today** By: Schneider, Hans Joachim Kriminalistik Volume: 64 Issue: 11 Pages: 627-635 Published: 2010
5. **Studies on Exposure to Multiple Maltreatment In Childhood** By: Sesar, Kristina Suvremena Psihologija Volume: 12 Issue: 2 Pages: 339-354 Published: 2009

Articles Excluded at Phase 2: Document Types (Reviews Excluded)

1. **A Systematic Review of Person-Centered Approaches to Investigating Patterns of Trauma Exposure** By: O'donnell, Meaghan L.; Schaefer, Ingo; Varker, Tracey; Et Al. Clinical Psychology Review Volume: 57 Pages: 208-225 Published: Nov 2017
2. **Preventing Gender-Based Violence Victimization in Adolescent Girls in Lower-Income Countries: Systematic Review of Reviews** By: Fount, Kathryn M.; Krause, Kathleen H.; Miedema, Stephanie S. Social Science & Medicine Volume: 192 Pages: 1-13 Published: Nov 2017
3. **What Do We Know About Child Abuse and Neglect Patterns of Co-Occurrence? A Systematic Review of Profiling Studies and Recommendations for Future Research** By: Debowska, Agata; Willmott, Dominic; Boduszek, Daniel; Et Al. Child Abuse & Neglect Volume: 70 Pages: 100-111 Published: Aug 2017
4. **Long-Term Impact of Childhood Abuse and Neglect on Crime and Violence** By: Widom, Cathy Spatz Clinical Psychology-Science and Practice Volume: 24 Issue: 2 Special Issue: Si Pages: 186-202 Published: Jun 2017

5. **Studies on Interpersonal Violence Against Children and Adolescents In Chile: A Review**
By: Pinto-Cortez, Cristian; Pereda, Noemi; Flores-Jara, Jerome
Interiencia Volume: 42 Issue: 5 Pages: 277-285 Published: May 2017
6. **Nonstranger Victimization and Inmate Maladjustment Is the Relationship Gendered?**
By: Cain, Calli M.; Steiner, Benjamin; Wright, Emily M.; Et Al.
Criminal Justice and Behavior Volume: 43 Issue: 8 Pages: 992-1017 Published: Aug 2016
7. **Risk And Protective Factors For Physical And Sexual Abuse Of Children And Adolescents In Africa: A Review And Implications For Practice** By: Meinck, Franziska; Cluver, Lucie D.; Boyes, Mark E.; Et Al. Trauma Violence & Abuse Volume: 16 Issue: 1 Pages: 81-107 Published: Jan 2015
8. **Association Between Abuse History and Adolescent Pregnancy: A Meta-Analysis**
By: Madigan, Sheri; Wade, Mark; Tarabulsky, George; Et Al. Journal of Adolescent Health Volume: 55 Issue: 2 Pages: 151-159 Published: Aug 2014
9. **The Current Prevalence Of Child Sexual Abuse Worldwide: A Systematic Review And Meta-Analysis** By: Barth, J.; Bermetz, L.; Heim, E.; Et Al. International Journal Of Public Health Volume: 58 Issue: 3 Pages: 469-483 Published: Jun 2013
10. **A Review of Young People's Vulnerabilities to Online Grooming** By: Whittle, Helen; Hamilton-Giachritsis, Catherine; Beech, Anthony; Et Al. Aggression and Violent Behavior Volume: 18 Issue: 1 Pages: 135-146 Published: Jan-Feb 2013

Articles Excluded at Phase 2: Document Types (Meeting Abstracts Excluded)

1. **Patterns in Attention Biases and Physiological Responses To Threat Vary as a Function of Exposure to Childhood Trauma** By: Von Schroder, Claudius; Herzog, Sarah; D'andrea, Wendy
Conference: 57th Annual Meeting Of The Society-For-Psychophysiological-Research Location: Vienna, Austria Date: Oct 11-15, 2017 Sponsor(S): Soc Psychophysiol Res
Psychophysiology Volume: 54 Special Issue: Si Supplement: 1 Pages: S42-S42 Published: Dec 2017
2. **Treatment Entry and Alcohol Dependence Among Poly-Victimized Youth: A Latent Class Discrete Time Survival Analysis** By: Davis, J. P.; Dumas, T.; Wagner, E. C.; Et Al.
Conference: 40th Annual Scientific Meeting Of The Research-Society-On-Alcoholism (Dursa, Reinhard, Barth, & Schneiderman) Location: Denver, Co Date: Jun 24-28, 2017 Sponsor(S): Res Soc Alcoholism
Alcoholism-Clinical And Experimental Research Volume: 41 Special Issue: Si Supplement: 1 Pages: 245a-245a Meeting Abstract: 912 Published: Jun 2017
3. **Poly-Victimisation And Adolescent Psychotic Symptoms in A Nationally-Representative Prospective Cohort Study of Twins** By: Fisher, Helen; Caspi, Avshalom; Moffitt, Terrie; Et Al.
Early Intervention in Psychiatry Volume: 10 Supplement: 1 Pages: 91-91 Published: Oct 2016
4. **Protective Factors for Childhood Psychotic Symptoms Amongst Poly-victimized Children**
By: Crush, Eloise; Arseneault, Louise; Jaffee, Sara; Et Al. Early Intervention in Psychiatry Volume: 10 Supplement: 1 Pages: 104-104 Published: Oct 2016

5. **Polyvictimized Children in The Legal System: Prophylactic Protections and Policy Considerations** By: Patton, W. European Child & Adolescent Psychiatry Volume: 24 Supplement: 1 Pages: S23-S24 Meeting Abstract: S1-06-01 Published: Jun 2015
6. **How Older Adults Are Affected by Polyvictimization** By: Ramsey-Klawnsnik, H. Gerontologist Volume: 54 Supplement: 2 Pages: 35-35 Published: Nov 2014
7. **Establishing Definitions and A Theoretical Framework for Polyvictimization In Later Life** By: Teaster, P. B. Gerontologist Volume: 54 Supplement: 2 Pages: 35-35 Published: Nov 2014
8. **Abuse, Neglect, And Exploitation of Elderly People Interest Group-Sponsored Symposium: Polyvictimization In Later Life** By: [Anonymous] Gerontologist Volume: 54 Supplement: 2 Pages: 35-35 Published: Nov 2014
9. **Insights into Perpetrators of Elder Polyvictimization** By: Roberto, K. A. Gerontologist Volume: 54 Supplement: 2 Pages: 36-36 Published: Nov 2014
10. **Poly-victimization in Childhood Is Related to Lower Cortisol Stress Response in Young Adult Women** By: Midei, Aimee J.; Matthews, Karen A. Conference: 71st Annual Scientific Meeting Of The American-Psychosomatic-Society Location: Miami, Fl Date: Mar 13-16, 2013 Sponsor(S): Amer Psychosomat Soc Psychosomatic Medicine Volume: 75 Issue: 3 Pages: A45-A45 Published: Apr 2013
11. **Polyvictimization and Trauma Symptoms in A Sample of Catalan Youth** By: Soler, L.; Forns, M.; Kirchner, T.; Et Al. European Journal of Psychotraumatology Volume: 4 Supplement: 1 Published: 2013
12. **Polyvictimisation Among Catalan Adolescents: Relationship with Affective and Anxiety Problems** By: Forns, Maria; Soler, Laia; Paretilla, Claudia; Et Al. International Journal of Psychology Volume: 47 Special Issue: Si Supplement: 1 Pages: 81-82 Published: 2012
13. **Poly-victimisation And Risk for Self-Injurious Behaviour And Suicidal Ideation** By: Soler, Laia; Segura, Anna; Paretilla, Claudia; Et Al. International Journal Of Psychology Volume: 47 Special Issue: Si Supplement: 1 Pages: 93-93 Published: 2012
14. **Poly-victimization And Risk Of Suicidal Behaviors In Adolescence: Protective Value Of Self-Esteem** By: Soler, L.; Paretilla, C.; Kirchner, T.; Et Al. Psychology & Health Volume: 27 Special Issue: Si Supplement: 1 Pages: 331-331 Published: 2012

Articles Excluded at Phase 2: Document Types (Book Chapters Excluded)

1. **Posttraumatic Stress Disorder and Substance Use Disorders** By: Ford, Julian D.; Hawke, Josephine M. Edited by: Kaminer, Y YOUTH SUBSTANCE ABUSE AND CO-OCCURRING DISORDERS Pages: 197-226 Published: 2016
2. **Play Therapy with Survivors of Interpersonal Trauma: Overcoming Abuse and Crime** By: Myers, Charles Edwin Book Author(s): OConnor, KJ; Schaefer, CE; Braverman, LD

HANDBOOK OF PLAY THERAPY, 2ND EDITION Pages: 417-436 Published: 2016

3. The Abused Student Cornered School Bullying amidst Trauma

By: Potter, Mona Patel; Hwang, Soonjo; Bostic, Jeff Q. Edited by: Reece, RM; Hanson, RF; Sargent, J TREATMENT OF CHILD ABUSE: COMMON GROUND FOR MENTAL HEALTH, MEDICAL, AND LEGAL PRACTITIONERS, 2ND EDITION Pages: 139-147 Published: 2014

Articles Excluded at Phase 2: Document Types (Editorial Material Excluded)

1. Child Maltreatment Turns 20: Looking Back and Looking Ahead

By: Whitaker, Daniel J. CHILD MALTREATMENT Volume: 20 Issue: 1 Pages: 3-5 Published: FEB 2015

2. Trends in Violence Research: An Update Through 2013

By: Hamby, Sherry; McDonald, Renee; Grych, John PSYCHOLOGY OF VIOLENCE Volume: 4 Issue: 1 Pages: 1-7 Published: JAN 2014

3. Trauma Exposure and Posttraumatic Stress Disorder in the Lives of Adolescents

By: Ford, Julian D. JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY Volume: 52 Issue: 8 Pages: 780-783 Published: AUG 2013

Trauma Exposure and PTSD in Justice-Involved Youth

4. By: Cruise, Keith R.; Ford, Julian D. CHILD & YOUTH CARE FORUM Volume: 40 Issue: 5 Special Issue: SI Pages: 337-343 Published: OCT 2011

Articles Excluded at Phase 3: Poly-Victim or Poly-Victimization in Title or Abstract

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6. Armour, C., Elklit, A., & Christoffersen, M. N. (2014). A Latent Class Analysis of Childhood Maltreatment: Identifying Abuse Typologies. *Journal of Loss & Trauma*, *19*(1), 23-39. doi:10.1080/15325024.2012.734205
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8. Bidarra, Z. S., Lessard, G., & Dumont, A. (2016). Co-occurrence of intimate partner violence and child sexual abuse: Prevalence, risk factors and related issues. *Child Abuse & Neglect*, *55*, 10-21. doi:10.1016/j.chiabu.2016.03.007
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Articles Excluded at Phase 5: Excluded, NOT Randomly Selected

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Appendix B: Article Included in Systematic Literature Review

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Appendix C: Coding Protocol

StudyID: _____ **AuthorYear#**

Article Title: _____

Journal: _____

Date Coded: _____ (original)

Date Re-coded: _____ (for reliability purposes)

Date Transcribed to SPSS _____ (original)

Date Re-**Transcribed to SPSS** _____ (for reliability purposes)

Does the article test the effect of victimization /poly-victimization? (**VictEffect**)

(1) Yes (0) No

If yes, what is (are) the dependent variable(s)?

If PV, not the independent variable, was it any of the following? (**VictPvVariable**)

- (0) Not applicable- (Descriptive study only)
- (1) Dependent
- (2) Mediating
- (3) Moderating
- (4) Control
- (5) More than one

Notes/Remarks:

SAMPLE “Who has been studied?”

Geographic Location: _____ (**Location**)
United States
Spain
Sweden
Ireland
Canada
Australia
China
Great Britain/United Kingdom
Other. If other, specify _____

Sample Size: _____ (**SampleSz**)

Sample Type 1 (Clinical vs. Non-clinical) (**SmplTypClin**)

- 0. Non-clinical/Community
- 1. Clinical
- 2. Mixed

Sample Type 2 (Probability vs. Non-Probability) (**SmplTypProb**)

- 0. Non-probability
- 1. Probability
- 2. Mixed

Sampling Type 3 (Specifics) (**SmplTypSpfc**)

- 1. University students
- 2. High School students
- 3. Middle School students
- 4. Middle and High School students
- 5. Nationally representative of children and youth
- 6. Nationally representative sample of adults
- 7. Mix of juveniles and adults
- 8. Adult women
- 9. Adult Men
- 10. Nationally representative sample of children, youth and adults
- 11. Nationally representative sample of youth
- 12. Archived Records
- 13. Other: If other, specify _____

If clinical, specify: _____ (**SmpTypSpfcCln**)

Notes/Remarks:

Sample Demographics

Mean Age: _____ (SmplDemAgeMn)

Age Range: _____ (SmplDemAgeStart) (SmplDemAgeEnd)

Age Category of Respondents (SmplDemAgeCatgry)

1. Children-only
2. Adolescents-only
3. Adults-only
4. Mix (children and adolescents)
5. Mix (adolescents and adults)
6. Mix (all three)

% Female: _____ (SmplDemPrnctFem)

If US based study (ONLY)

% White: _____ (SmplDemPrnctWhite)

% Black: _____ (SmplDemPrnctBlack)

% Hispanic: _____ (SmplDemPrnctHisp)

MEASURES-General-How was Pv Measured?

Major Study Name (if applicable) _____ (MGMajorStudy)

Language of Data Collection _____ (MGLanguage)

1. English
2. Spanish
3. French
4. Russian
5. Swedish
6. Chinese
7. Mandarin
8. Urdu
9. Danish
10. More than one
11. Other
12. If other, please specify _____

Years Data Collected: _____ (MGYrDataClctStart) (MGYrDataClctEnd)

Victimization Time Frame: _____ (MGVictTimeFrame)

1. Past-Year
2. Lifetime (childhood & adulthood)
3. Lifetime (Childhood only)
4. Full Childhood (birth to 17)
5. Past-6 months
6. Past Year and Lifetime
7. Before age 10
8. Past 3 months
9. Other. If so, specify _____
10. Multiple timeframes if so, specify _____

MEASURES-Instrumentation- “How was PV Measured?”

Victimization Instrument Used: _____ (**VictInstrument**)

1. None specified (list of items, not formal instrument)
2. JVQ (Juvenile Victimization Questionnaire)
3. CTS (Conflict Tactics Scales)
4. MINI (Mini International Neuropsychiatry Interview)
5. Bullying and Friendship Interview Schedule
6. LITE (Life Incidence of Traumatic Events Scale)
7. CTQ (Childhood Trauma Questionnaire)
8. CIDI (Composite International Diagnostic Interview)
9. UIVS (University of Illinois Victimization)
10. Trauma History Profile
11. Client Assessment and Risk Evaluation
12. Chart Reviews
13. Multiple Instruments

If multiple, please specify how many _____

If JVQ, what version? _____ (**VictInstrJVQ**)

of victimizations assessed: _____ (**VictNumItems**)

of subcategories/domains/aggregate categories (by authors) _____ (**VictNumAgg**)

Detailed list of items (and categories if applicable_

Diversity of Items specified by Characteristic of Victimization

Includes **Direct** victimization (**VictDirect**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes **Indirect** victimization (witnessing) (**VictIndirect**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes **violent** victimization (**VictViolent**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes **non-violent** (i.e... psychological/emotional) victimization (**VictNonViolent**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes **family-based** victimization (**VictFamilial**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes non-family-based victimization (**VictNonFamilial**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes personal victimization (**VictPersonal**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes property victimization (**VictProperty**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes sexual victimization (**VictSexual**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes non-sexual victimization: (**VictNonSexual**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes sexual victimization items that do NOT include (physical) force (VictSexNforc)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes sexual victimization items that do include FORCE (VictSexForce)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Include attempted (non-completed) victimization (VictAttempted)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes victimization with a weapon (VictWeapon)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes victimization perpetrated face to face (VictInperson)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes online victimization (**VictOnline**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes common offenses of childhood (peer and sibling) (**VictPeerSib**)

- 1. No
- 2. Yes, but just sibling
- 3. Yes, just peer
- 4. Yes, both
- 5. It can be deduced based on some other general questions

IF it can be deduced, specify question: _____

Includes **stalking** (**VictStalk**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Diversity of Items by Specific Victimization Types

Specifically assessed Statutory Rape (VictStatutory)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Specifically assessed Child Physical Abuse (VictPhysAbu)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Specifically assessed Neglect (VictNeglect)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Specifically assessed Witnessing (IPV) inter-parental assault (VictWtnssIPV)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Specifically assessed Bullying (VictBullying)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

If yes, which type of bullying does is specifically ask about (circle all that apply)

(VictBullyingTypePhy) (VictBullyingTypeVbl) (VictBullyingTypeRel)

- (0) Physical
- (1) Verbal
- (2) Relational
- (3) Not specified/Unable to determine

Diversity of Items Specified-Rare/Extra-ordinary Victimizations

Includes Biased Attack (**VictBiased**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes Kidnaping (**VictKidnap**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Includes, Combat War Riots or Civil Unrest (**VictWar**)

- (0) No
- (1) Yes, it specifically asks about it
- (2) Can be deduced from or capture by some other general questions

IF it can be deduced or captured, specify question: _____

Measures-Lifetime Adversities- “How was PV measured?”

Measures or analyzes non-victimizing adversities (**AdversityMsrd**)

- (0) no, diversities not assessed or analyzed
- (1) yes, adversities measured

If adversities measured, what timeframe used? (**AdversityTimeFrm**)

- (0) Past-year
- (1) Lifetime
- (2) Childhood
- (3) Full Childhood
- (4) More than one time period
- (5) Other

If other, specify _____

If adversities measured, number of adversities _____ (**AdversityNum**)

List adversity items

If adversities measured, does article differentiate between adversities (or trauma) and interpersonal victimizations? (**AdversityDiff**)

- (1) Yes
- (0) No
- (2) Partially (used to create PV article, but some analyzes done separately)

If adversities measured, were they measured separately from victimizations? (**AdversityMrsdSep**)

- (1) Yes
- (0) No

If adversities assessed, does it include natural disasters

(1) Yes

(0) No

If adversities assessed, does “trauma” or “victimization” measure include major illness.

(1) Yes

(0) No

If adversities assessed, does “trauma” or “victimization” measure include major accident.

(1) Yes

(0) No

If adversities assessed, does “trauma” or “victimization” measure include (sudden) death, loss of bereavement (possibly due to an illness or accident, not a victimization).

(1) Yes

(0) No

If adversities assessed, does it assess familial alcohol and drug abuse?

(1) Yes

(0) No

If adversities assessed, does it assess major hospitalization?

(1) Yes

(0) No

If adversities assessed, does it assess homelessness?

(1) Yes

(0) No

If adversities assessed, does it assess familial incarceration (parental or otherwise)?

(1) Yes

(0) No

If adversities assessed, does it assess familial suicide attempt?

(1) Yes

(0) No

If adversities assessed, does it assess deployment?

(1) Yes

(0) No

Measures- “How was PV Operationalization?”

Poly-Victimization-Empirically or Conceptually Determined (**PvOpernl1**)

- (1) Empirically
- (2) Conceptually/Deductively
- (3) Both

If **EMPIRICAL**, type of analysis conducted? _____ (**PvEmprclAnlys**)

- (0) Not empirical
- (1) cluster
- (2) latent class
- (3) Other, specify: _____

If Empirical, **number of classes**: _____ (**PvOpertNumCls**)

If Empirical, name of classes or domains

IF CONCEPTUAL or DEDUCTIVE, how described (if applicable)

If **conceptual or deductive**, how operationalization of poly-victimization (Interval/Ratio)

If **conceptually** (or deductively) operationalized, how added? (**PvOpertnl2HowAdded**)

- (1) Sum of items
- (2) Sum of categories/domains
- (3) Sum of items, NOT in the same incident
- (4) Other. If other, specify _____
- (5) sum of items within each category
- (99) Not clear

Operationalization of poly-victim, categorized? (**PvOpertnl3Dich**)

- (0) No
- (1) Yes,
- (2) Not clear

Operationalization of PV cut off for past-year_____ (**PvOpertnl4CutOffPy**)

Operationalization of PV cut off for lifetime _____ (**PvOpertnl5CutOffLt**)

Operationalization of PV cut off for full childhood _____ (**PvOpertnl6CutOffChld**)

Operationalization of PV, differentiates between low and high? (**PvOpertnl7LowHigh**)

- (0) No
- (1) Yes

Operationalization of PV, top 10%? (**PvOpertnl8Top10**)

- (0) No
- (1) Yes

Operationalization of PV, cut off score, age graded? (**PvOpertnl9AgeGd**)

- (0) No
- (1) Yes

If study used top 10% cut off, what was the numerical cut-off score? _____

Notes/Remarks:

RESEARH - “How was PV studied?”

Type of Research Design (**DesignTypGnl**)

- (0) Qualitative
- (1) Quantitative
- (2) Mixed Method
- (3) Content Analysis
- (99) Other, specify_____

If *quantitative* (or *mixed*) survey? (**DesignSurvey**)

- (0) no
- (1) yes
- (2) Not quantitative

Type of Design (cross-sectional vs. longitudinal) (**DesignTypTime**)

- (1) Cross-sectional
- (2) Longitudinal

If longitudinal, is analysis based on longitudinal data or a cross-section of it (**DesignLongAnls**)

- (0) No, it's based on cross-section of a longitudinal study
- (1) Yes, it's based on longitudinal data

If longitudinal analysis, what type? (**DesignLongType**)

- (0) Panel
- (1) Cohort
- (2) Trend

Method of Data Collection- “How was data collected”

Data Collected from individuals (**DataIndI**)

(1) Yes

(0) No

If no, please specify _____ (**DataIndIOther**)

If data collected from individuals, self-report? (**DataSelfRpt**)

(1) yes

(0) no

If self-report, asks children about own childhood victimization (**DataSelfChldChld**)

(1) yes

(0) no

(99) DK/NA/Not detailed/children not sampled

If self-report, asks adults about own childhood victimization (**DataSelfAdlt1Chld**)

(1) yes

(0) no

(99) DK/NA/Not detailed/adults not sampled

If self-report, asks adults about own adult victimization (**DataSelfAdlt2Adlt**)

(1) yes

(0) no

(99) DK/NA/Not detailed/adults not sampled

If data collected from individuals, proxy interviews? (**DataIndProxy**)

(1) yes

(0) no

(99) DK/NA/Not detailed/children not sampled

If data collected from individuals, multiple informants? (**DataIndMult**)

(1) yes

(0) no

If data collected from individuals, self-administered? (**DataIndSelfAdm**)

(1) yes

(0) no

(2) Not specified

If self-administered, how? (**DataSelfAdminType**)

- (0) Not-self administered
- (1) Paper and pen/pencil
- (2) Computer
- (3) Not specified

If interview, Telephone (**DataIntviewTel**)

- (1) yes
- (0) no
- (2) Not specified

If interview, face to face (**DataIntviewFace**)

- (1) yes
- (0) no
- (2) Not specified

If interview, conducted by (specially) trained interviewers (**DataIntviewTrained**)

- (1) yes
- (0) no
- (2) Not specified

Data Collectors (**DataCollector**)

- (1) Self
- (2) Research Assistants/Graduate students
- (3) Professional Survey Agency/Company
- (4) Researchers
- (5) Non-research personnel, if so, please specify _____
- (6) Mixed, specify which by circling all that apply
- (7) Not specified

Notes/Remarks

Data Collection/Management Considerations

Victimization Responses (**DataVictResp**)

- (1) Yes/No
- (2) How often/how many times
- (3) Mixed
- (99) Other, please specify _____

If victimization responses measured frequency, were items subsequently categorized?

- (1) yes
- (0) no

If yes, how? _____

Weighing of items took place to operationalize

- (1) yes
- (0) no

If weighing involved, please specify: (**DataVictRespWeighted**)

- (0) Severity
- (1) Frequency
- (2) Injury
- (3) Weapon Use
- (4) Relationship to Perpetrator
- (5) Age of onset
- (6) Across multiple developmental epochs
- (7) Across multiple locations
- (8) Other, please specify _____
- (9) Weighted Across Multiple Factors

Notes on Data Management:

Appendix D: Coding Notes

StudyID: Based on first author's last name, date of publication, and number of articles in the sample with same first author.

Article Title: For my purposes only.

Date Coded: Date original coding took place.

Date Re-coded: Date studies were recoded for reliability purposes.

Date Transcribed to SPSS: Date information was transcribed to SPSS

Date Re-Transcribed to SPSS: Date studies were recoded for reliability purposes.

Does the article test the effect of victimization /poly-victimization? (VictEffect)

Coded only for the studies that specifically evaluated the effect of PV. In their words, only if PV was the independent variable. If PTSD was linked to DSM criteria, it was coded as PTSD and as psychological, clinical.

Geographic Location: Location of data collection

Sample Size: As reported by authors after all exclusions. In other words, the “effective” sample size. Just the ones that analyses were conducted on. Analytic sample. When discrepancies in sample size were found, the sample size reported in the tables was the preferred sample size.

Sample Type 1 (Clinical vs. Non-clinical): Included adjudicated delinquent girls (D. D. DeHart & Moran); youth receiving MH services; juveniles in detention center or serving non-custodial sanctions

Sample Type 2 (Probability vs. Non-Probability):

Probability: Sampling frame created, and randomization was stated by authors

Mixed: This relates to multi-level sampling techniques that make use of randomization, but the previous level (school, agency, city) were not randomly selected and are therefore no “true” random samples. It also includes cases wherein more than one sampling technique was used, sometimes because sample were selected from more than one location (e.g. Cyr 2012)

Age Category of Respondents (SmplDemAgeCatgry): Not necessarily mutually exclusive. Age 18 was categorized as adolescent if maximum age for a group of adolescents (e.g. 12 to 18). It was also coded as adults if it represented the minimum age for a group of adults (i.e. 18 to 24)

Major Study Name (if applicable): If stated by authors. If not specified by authors online searches were done to determine primary language. If more than one primary language was found, items were left blank.

Language of Data Collection: All US based studies were coded as English unless stated otherwise. Other languages more conservatively approached. If not mentioned and the country is identified as having more than one primary language, not coded.

Victimization Time Frame: Full Childhood: This becomes relevant when asking adults about their victimization experience prior to age 18. Exclusively included samples that asked about victimization from birth up to 17 years of age.

Victimization Instrument Used: If article did not contain a complete list of items used, additional searches were conducted (starting with citation associated with instrument used in the current article). Efforts were made to match victimizations item per item. Very difficult and tedious process. If list of items was not provided and author did not cite a specific instrument, aggregate categories were used to evaluate measure. To account for increased ambiguity, characteristics and types were predominantly deduced.

Since the focus here was to figure out how poly-victimization was measured, only items that were used to construct PV were included in this section. If additional victimization items were measured, but exclusively used as a dependent variable to the article's poly-victimization construct, it was not added here. This was relevant in Reidy 2017 and Espelage 2012:

Chart Review: If chart review, coded based on what was found as opposed to what was pre-emptively searched for. May want to separate these studies from the remaining ones at analysis time.

of victimizations assessed: Initially coded for list of items used to measure potentially traumatic experiences, victimization, and adversities. Separated only if measured and or analyzed separately. For example, Ford 2013 measured adversities along with victimizations (for a total of 19 items), but subsequent analyzes separated adversities from victimizations, so total number of items reflect # of victimizations only (as researchers differentiated in analyses).

of subcategories: According to author's organization of items.

Detailed list of items: If full list was not available but found using additional searches. The full scale was used, unless specified by the author that only a portion of the items from the full scale was used. This was relevant in Cinamon 2014 (TAA and ROME). Total number of items was not able to be determined for this article. It was also relevant to Cuevas 2010.

Diversity of Items by Characteristic of Victimization: Categories are not mutually exclusive. One item could satisfy multiple characteristics. For example, flashing could be considered a direct, sexual, and a non-violent sexual incident, that does not infer force. "Specifically asked"

does not mean that the indicator contains the word “biased attack” or “bullying” within it, as most indicators are behaviorally specific. **LIMITATION:** Coding criteria made it virtually impossible to assess whether a general item could capture a biased attack although it didn’t specifically ask about it. It makes sense as since this is technically a more specific type of assault and so coding criteria needed to be more specifically.

Generally speaking however, any assault, not perpetrated by a family member has the potential to capture a “biased attack”. That said, majority of studies have the potential to capture this specific type of victimization.

Indirect: If article stated domestic violence, coded as indirect because domestic violence is generally understood to be between parents. However, it was coded as “it can be deduced” Included if participants asked if they had “seen or heard” (originally opened it up to “saw the aftermath of incident) but didn’t come up.

Violent: If any assault, robbery, or child physical abuse was included, measure was coded as containing a violent victimization. “Rape” was also coded as a violent crime. Attempted or completed victimizations that involved a weapon met criteria for inclusion in this category. Fondling without force was not categorized as violent. Threat of violence were coded as violent.

Non-violent: Includes any incident that did not include physical force such as psychological aggression, emotional abuse and neglect. It also included controlling behaviors (such as threatened suicide). This was the case for one study in particular that asked about both childhood and adulthood victimization experiences to construct PV. Items measuring controlling variables were specifically related to experiencing intimate partner violence in adulthood. (Radatz 2017)

Family-based: Includes any items that reflects child maltreatment and any item that indicates incident was perpetrated by parent, step-parent, foster-parent, any other adult caregiver or sibling. Either in the context of the question or the survey. If perpetrator was not specified, items stated “anyone”, and instrument included items related to physical assault or psychological abuse, it was coded as “2”, it could be captured by this question. Additionally, if “spanking” was included and perpetrator was not specified, it was always coded as family-based. While incidents of spanking have been documented by school personnel it was not coded to reflect this. Only one of the identified studies specifically measured corporal punishment at school. (Samms-Vaughn 2017)

Non-family: Non-family was coded, yes if parent/caregiver was not specifically referenced in a study that did not specifically focus on child maltreatment. It was coded as “yes” if items contained general perpetrator references such as “anyone” even in the context of a study that focused exclusively on child maltreatment.

Property: while property victimization was originally intended to capture incidents of robbery, burglary, assault, theft and vandalism, articles were coded as including property

victimization if it included some items that asked about someone (most often partner) had destroyed something belonging to them (on purpose or otherwise), it was include as property crime, but not as indirect victimization because the objective was to victimize and/or intimidate the respondent, not the property. (Radatz 2017) “robbed, mugged”

Sexual: Included in sexual victimization as “deduced” are items that enquire about whether the respondent has had “embarrassing pictures posted online”. This applies to Wolke 2017.

Sexual Victimization (*no force*): Any child sexual abuse, exposure, misconduct. This would include articles that measure statutory rape, verbal coercion, flashing, molested also conceptualized as non-violent. If assault, force, or rape were used coded as sexual victimization with force. Sexual exposure such as pornography and unmonitored exposure to sexual content, age inappropriate sexual information also considered non-forceful (Reidy 2011).

Sexual Victimization (*force*): Include the word “force” or physical coercion. Rape and sexual assault were categorized as deduced “forced”. Sexual victimization was not. Sexual abuse not automatically considered forced, sexual assault could be “deduced” forced. Force, in this context, means physical force. Statements that reflect verbal coercion were not coded as “yes” here. For example: “tried to make me touch them”—not considered physical force. This item appears in the child trauma questionnaire. Sexual victimization involving penile penetration was not automatically coded as forceful. Neither was threat. Threatened physical was not considered physical force and therefore not coded as yes. (Radatz 2017). The study in question did have other measures of physically forced sexual victimization, so it ended up being coded as “forced sexual abuse”, but had those items not been included, this article would have been coded as “no” forced sexual victimization. This was relevant to (Ford 2013) article, which asked about being made to see or do something sexual. Conservative measure of force. “pressured to” have sex (Radatz 2017) was not considered forced. “physically forced or physically attacked” was.

Attempted: Anything started, but not completed. Threats with or without a weapon were not included here, but rather were coded as completed psychological victimization. “Some tried” were classified as attempted.

Weapon: Measures were classified as including a weapon- involved victimization if incident (completed or not) included an object of any kind (e.g. stick, knife, belt, board, cord, firearm). Included if object was explicitly stated and when participants asked if they had seen someone get “stabbed or shot”. Weapon is defined as an object of any kind.

Face to face: It is very unlikely that any single item will explicitly state that the incident occurred in person or face to face. We could argue that most were therefore deduced, but they were coded as yes, specifically stated because an assault, a robbery, or an incident of sexual

fondling or sexual assault with penetration cannot by definition occur unless the victim and the perpetrator were face to face.

Online: Had to be explicitly stated and could include any electronic device (including cellular phone and any social medial application). LIMITATION: Based on this coding criteria, didn't really assess if online victimization can be "deduced" or "captured"

Peer and Sibling: Possible to have an item that measured physical assault, but not be coded as peer and sibling victimization, which is overwhelming measures as physical assaults among peers, both familial and not. This was the case in Radatz 2017 study which specifically asked about physical assault by parent, caregiver or intimate partner violence. Study did not include an item that measured assault "generally" or without explicitly stating perpetrator.

Child Physical Abuse: Coded yes, only if explicitly perpetrated by a parent or caregiver. Study must specify parent or care taker in the context of the item, instrument, or study.

Neglect: Absence of parental responsibility, protection, provision, voluntary or not. Of any kind, physical, emotional, medical

Relational: Limited to the type of bullying that specifically aimed at disrupting, ending or preventing a relationship with self or others. (end relationship with self-Sargent 2016)

Biased Attack: An incident wherein the intent (from the victim's perspective) was related to their gender, racial/ethnic background, religious affiliation, or sexual orientation. If intent, not mentioned, not coded. Left as missing. So, a group or gang attack, NOT coded as a "deduced" biased attack.

Kidnaping: Parental or stranger. Includes custodial interference.

Combat, War Riots or Civil Unrest: Includes any exposure to war, ethnic conflict, riot or civil unrest. Could be captured in general community violence item that asks about seeing someone get stabbed or shot (Reidy 2017).

Lifetime Adversities: Lifetime adversities coded even if not contextualized as a measurement of lifetime adversity, but rather a descriptive variable. For example, a study of low-income African American women were asked about their homelessness status and substance use. They were asked these questions to collect "basic information" about the responding parent. For our purposes, this study was limited in a couple of ways. First, although it came up in our initial poly-victimization literature search, it was not "a true" poly-victimization study as it was limited to child maltreatment (reported by child) and intimate partner violence (reported by the child's mother). Additionally, it was limited in that it measured two different types of lifetime adversities but were not mentioned if they were not included in analyses, based on are a review of the tables and the data analytic strategy.

Coded “no”: If original instrument contained lifetime adversity indicators, but were not used in analysis, it was coded as “NO”. This was the case in Cuevas 2010 article.

AdversityDiff: Coded as “yes” even if differentiations were only partially made. For example, in Ford 2013, all items were used to create latent classes, but were subsequently differentiated in analyses testing empirical relationships. This was also the case in Radatz 2017—all items were used to create PV item, but some analyzes done separately from victimization

Conceptual or Deductive: Not necessarily mutually exclusive

If *conceptually* (or deductively) operationalized, how added? - If multiple poly-victimization definitions (or operationalizations) are mentioned in literature review, but author does not specify which method was use, information was left blank and treated as missing values.

Operationalization of poly-victim categorized: This includes studies that used “sum of items” or “sum of categories” to analyze poly-victimization. Studies that compared PV to non-poly-victims in the past year, lifetime or full childhood.

Operationalization of PV: These may not be mutually exclusive—all operationalization measures/strategies were recorded, so it’s possible to account for studies that use multiple operationalizations concurrently (for different reasons). If PV, however, was not dichotomized, these were left blank and treated as missing data.

Research Design Type: Content Analysis- Content analysis coded as a separate category because it could technically be classified as either qualitative or quantitative. Also, making this differentiation at this point may allow us to collapse data later.

Data Collected from individuals: Coded as “no” if data collected from chart reviews (i.e... medical records; intake interviews, administrative data). If content analysis, not coded as collected from individual (even if originally collected from people by people). If chart review, questions regarding how information was collected from individuals (e.g. Intake interviews) were not coded.

Asks Adults About Own Childhood: In cases when adolescents and adults were asked about victimization exposure in the past year, then all three dichotomized variables were coded as yes for children reporting on childhood victimization, as would be the case for anyone up to the age of 18 who reported on exposure while they were 17 or younger. And as would be the case for adults reporting on adult victimization for anyone over the age of 19 who is reporting on what they experienced as 18-year-olds and above. This was the case in the Farrell, 2017 article.