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Cumulative Abuse: Do Things Add Up? An Evaluation of the Conceptualization, Operationalization, and Methodological Approaches in the Study of the Phenomenon of Cumulative Abuse

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Abstract

For women, any one type of abuse rarely occurs in isolation of other types, and a single abusive experience is often the exception rather than the norm. The importance of this concept of the cumulative nature of abuse and its negative impact on health has been well recognized within the empirical literature, however there has been little consensus on what to call this phenomenon or how to study it. For the most part researchers have operated on the premise that it is the sheer number of different types of cumulating abuse experiences that is primarily responsible for worse health outcomes among women. And although this simplistic 'more is worse' approach to conceptualizing and operationalizing cumulative abuse has proven to be a powerful predictor of poorer health, it contradicts growing empirical evidence that suggests not all victimizations are created equal and that some victimizations may have a more deleterious effect on health than others. Embedded in abuse histories are individual and abuse characteristics as well as other life adversities that need to be considered in order to fully understand the spectrum and magnitude of cumulative abuse and its impact on women's health. Furthermore, given the long-term and persistent effects of abuse on health it becomes imperative to not only evaluate recent abusive experiences, but rather all abuse experiences occurring across the lifespan. This review highlights and evaluates the conceptual, operational, and methodological challenges posed by our current methods of studying and understanding the phenomenon of cumulative abuse and suggests that this phenomenon and its relationship to health is much more complex than research is currently portraying. This paper calls for the urgent need for interdisciplinary collaboration in order to more effectively and innovatively study the phenomenon of cumulative abuse.

Keywords

violence exposure, child abuse, domestic violence, mental health and violence, sexual assault

Insight into the effects of abuse on women's health has emerged primarily from research examining one or two types of abuse on a small number of health outcomes (Bohn & Holz, 1996; Eby, Campbell, Sullivan, & Davidson, 1995; Letourneau, Holmes, & Chasedunn-Roark, 1999; Ratner, 1993). This approach limits insight into the abuse–health relationship, as it does not take into account the reality that one type of abuse rarely occurs in isolation of others, or that a single abusive experience is often the exception rather than the norm (Finkelhor, Ormrod, Turner, & Hamby, 2005; Golding, 1999; Kira et al., 2008). There are significant detrimental effects on health for any one type of abuse (i.e., sexual, physical, or psychological/emotional abuse), however health consequences may be incrementally worse for victims experiencing multiple types of abuse, either cooccurring, or compounding over a lifetime (Alvarez et al., 2009; Banyard, Williams, Saunders, & Fitzgerald, 2008; Campbell, Greeson, Bybee, & Raja, 2008).

The focus of this article is to review and evaluate current knowledge regarding the effects of cumulative experiences of abuse on women's health. In particular, to explore how the premise of "cumulative abuse" has been conceptualized and operationalized, particularly in studies focusing on health outcomes. As well, this article will evaluate the designs, methodological, and analytic approaches used to examine the health effects of cumulative abuse. First and foremost, the author acknowledges and commends the important and painstaking

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work that has been conducted in the field of violence against women to better understand the relationships between abuse history and health outcomes. This work has had significant implications for research, policy, and clinical practice directed at helping women who have experienced abuse. The intent of this scholarly work is not to negatively critique past research but to hopefully provide a comprehensive review of our current understanding of cumulative abuse and offer a point of departure to build upon for future research.[1]

Abuse and Health

Abuse is a major social problem and a significant health issue for women (World Health Organization [WHO], 2005). Conservative estimates from the National Violence Against Women Survey (NVAWS) indicates lifetime prevalence rates of physical abuse among women to be 52%, with lifetime rates of sexual abuse at 18% (Tjaden & Thoennes, 2000). These data also suggest that many women first experience abuse during childhood, with nearly 40% reporting childhood physical abuse and 9% reporting childhood sexual abuse (Tjaden & Thoennes, 2000). Even though physical and sexual abuse are most commonly studied, research has more recently demonstrated that they are often accompanied by psychological/emotional abuse, although true prevalence estimates of the latter are more difficult to obtain because of the entangled relationship with the other types of abuse (Pico-Alfonso, 2005; WHO, 2002).

The past 30 years of research has provided a growing awareness of the pervasive effects of abuse in undermining women's physical and mental health and abuse is now recognized as having substantial long-term negative health consequences for survivors, even after the abuse has ended (Campbell, 2002; Crofford, 2007; Kendall-Tackett, 2005; Koss, Koss, & Woodruff, 1991; WHO, 2002). Although not an exhaustive list, beyond death and physical injury, abuse has been linked to an extensive array of physical health problems such as: gastrointestinal problems (Drossman et al., 2000; Frayne et al., 1999); sleep disturbances (McCauley et al., 1995); chronic pain (Kendall-Tackett, Marshall, & Ness, 2003; Wuest et al., 2008); heart disease (Breiding, Black, & Ryan, 2008; Frayne et al., 1999); obesity (Bonomi et al., 2006); severe headaches, migraines, chronic fatigue (Frayne et al., 1999); pulmonary problems (Anda et al., 2008; Frayne et al., 1999); autoimmune diseases (Breiding et al., 2008; Dube et al., 2009); diabetes (Romans, Belaise, Martin, Morris, & Raffi, 2002); sexually transmitted diseases, human immunodeficiency virus (Zierler, Witbeck, & Mayer, 1996); somatic syndromes (Crofford, 2007); and a disproportionately higher use of health care services (Bohn & Holz, 1996).

The most common psychological health sequelae of abuse are depression and posttraumatic stress disorder (PTSD; Clum, Calhoun, & Kimerling, 2000; Golding, 1999; Mechanic, Weaver, & Resick, 2008). Further to PTSD and depression being outcomes of abuse, a growing body of research suggests that PTSD and depression may also influence the extent to which abuse negatively compromises a women's physical health, thus positioning psychological health as a mediator between abuse and physical health outcomes (Schnurr & Green, 2004; Sutherland, Bybee, & Sullivan, 2002; Weaver & Resnick, 2004). As well, health risk behaviors such as smoking, alcohol and drugs use, and engaging in unprotected sex have also been found to be more prevalent among women with abusive histories, suggesting that abuse and negative health outcomes are partially mediated through these health risk behaviors (Breiding et al., 2008; Eby, 2004; Golding, 1999; Mechanic, 2004; Rheingold, Acierno, & Resnick, 2003).

The mechanisms by which abuse can impact health are multifaceted and not well defined (Bohn & Holz, 1996). Obvious are the immediate and direct harms sustained from physical injury that may result in long-term disability. But beyond these direct and rather obvious physical effects, the traumatic experience of abuse can result in enduring chronic psychological stress that is believed to have long-term negative mental and physical health consequences (Bremner, 2002; Kendall-Tackett, 2005; Plichta, 2004). Chronic psychological stress can accumulate and compound over time to produce significant and long-term physiological changes within the body (Breiding et al., 2008; Carlson, 1997; McEwen, 1998; Sapolsky, 1994). These changes are believed to create a state of vulnerability leading to the etiology of many chronic diseases and illnesses that may exist or present long after the abuse has ended (Bohn & Holz, 1996; Kendall-Tackett, 2005; McEwen, 1998; Sapolsky, 1994). The cost of these diseases and illnesses are profound in terms of both money and human suffering and situates abuse as one of the primary health issues facing women today (Kendall-Tackett, 2003b; Lesserman & Drossman, 1995).

Conceptualization

What we name a phenomenon both reflects and determines how we conceptualize it and subsequently how we operationalize it (McHugh & Hanson-Frieze, 2006). However, within the abuse literature there appears to be little consensus on what to call this phenomenon of accumulating abusive experiences (what will be referred to as "cumulative abuse") and its unique contribution to health. Variability in terms used among many disciplines and researchers has made examining this phenomenon a complex task. Terms commonly used include: accumulated trauma or exposures to violence (Briere, Kaltman, & Green, 2008; Brown, Hill, & Lambert, 2005); retraumatization (Banyard, Williams, & Siegel, 2001); revictimizaiton (Arata, 2000; Casey & Nurius, 2005); cooccurrence (Campbell et al., 2008); cumulative exposure/effects (Alvarez et al., 2009; Banyard et al., 2008); lifetime trauma (Krause, Shaw, & Cairney, 2004); lifespan victimizations (Macmillan & Kruttschnitt, 2005); polytraumatization (Gustafsson, Nilsson, & Svedin, 2009); and polyvictimization (Finkelhor et al., 2005). Upon closer examination each of these terms seemingly refers to the same phenomenon:

more experiences of abuse, whether repetition of the same type, differing types, or a combination of both, result in health outcomes that differ from those associated with an isolated experience of abuse. So why are so many different terms used to describe the same phenomenon? Part of the reason may stem from the research silos that we have created, where different disciplines and even different fields within the same discipline seemingly lack effective communication about research interests. This became evident while reviewing the literature. Unfortunately, the result is the parallel examination of the same phenomenon and the use of multiple terms to describe it, inevitably creating confusion within the literature.

Another part of the difficulty in conceptualizing the phenomenon of cumulative abuse is that the conceptualization of "abuse against women" itself has changed considerably over the years (McHugh & Hanson-Frieze, 2006; Murray & Graybeal, 2007). Abuse is grounded in historical, economic, cultural, social, and political factors that has lead to considerable fluctuations in the definitions of abuse, and little consensus of what constitutes abuse (McHugh & Hanson-Frieze, 2006; WHO, 2002). As what we conceptualize as constituting abuse changes, so does our conceptualization of what cumulative abuse encompasses.

Recognizing that the development of the concept of cumulative abuse has not happened in consecutive time frames and that it has varied depending on the discipline conducting the research, the following is a general presentation of an overall pattern in which the conceptualization and operationalization of cumulative experiences of abuse has changed over time. An extensive search of the literature was conducted. Primary search terms included: cumulative abuse/violence, multiple abuse/violence, revictimization, multiple traumatization, retraumatization, lifetime abuse/violence, lifespan abuse/violence, and multiple victimization. From these primary searchers, secondary searches were conducted based on new terminology uncovered in the reviewed body of literature. Search criteria were limited to English-only articles and research involving humans. Despite the multiple terms used to describe the phenomenon of cumulative abuse, in reviewing the literature essentially four categories emerged through an inductive process that allowed the author to capture all the different ways in which the concept has been studied; revictimization, cooccurrence of types of abuse, lifetime abuse perspective, and cumulative patterns.

Singular Abuse Categories

Much of our early understanding of the relationship between abuse and health was based on women being broadly categorized as either "abused" or "not abused," with findings consistently showing a higher prevalence of detrimental physical and mental health effects for those women with abuse histories (Eby et al., 1995; Hathaway et al., 2000; Letorneau Holmes, & Chasedunn-Roark, 1999; Ratner, 1993). Extending from this simplistic categorization, came studies examining specific "types" of abuse and their unique impact on health (e.g., Bachmann, Moeller, & Benett, 1988; Plichta, 1992), as well as studies contrasting health outcomes from one type of abuse against those from another type (e.g., Bohn & Holz, 1996; Kolko, Moser, & Weldy, 1988; Lesserman et al., 1996). Although these studies have been successful in illuminating the deleterious impact of abuse on health and have contributed greatly to our understanding of the abuse–health relationship, they did not consider the potential cumulative effects that the cooccurrence of multiple types of abuse or repeated abuse experiences across the lifespan may have on health.

Revictimization

Early conceptualization of the phenomenon of cumulative abuse emerged within the sexual revictimization literature. At this time, researchers began shifting focus beyond health outcomes of singular incidences of abuse or violence (e.g., rape) to that of repeated experiences of the same type of abuse (e.g., sexual abuse; Messman-Moore, Long, & Siegfried, 2000). The empirical evidence at the time suggested that women who experienced sexual abuse during childhood were at an increased risk for being revictimized as adults (Gidycz, Coble, Latham, & Layman, 1993; Wyatt, Guthrie, & Notgrass, 1992). Revictimization research took into consideration a temporal component to incidences of repeated abuse and conceptualized cumulative abuse as having an experience of child sexual abuse and a separate incident of adult sexual victimization. Since this time, findings have rather consistently demonstrated that women with repeated victimizations have poorer health compared to those exposed only in childhood or only in adulthood (Arata, 2000; Banyard et al., 2001; Fogarty, Fredman, Heeren, & Liebschutz, 2008; Messman-Moore et al., 2000).

The bulk of revictimization research has focused predominantly on sexual revictimization, with only a few studies examining revictimization involving physical abuse despite evidence of its high cooccurrence with sexual abuse (e.g., Desai, Arias, Thompson, & Basile, 2002; Fogarty et al., 2008; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007; McGuigan & Middlemiss, 2005). As Humphreys, Sharps, and Campbell (2005) stated "studies that focus on single forms of abuse may wrongly attribute long-term negative health sequelae solely to a certain type of abuse, overlooking the cumulative impact of contextual factors and multiple types of abuse" (p. 183). As well, only examining a single type of abuse could conceal the potentially augmented effects from combined types of abuse on health outcomes (Basile, Arias, Desai, & Thompson, 2004). This highlights the limitation of conceptualizing cumulative abuse so narrowly, and underscores the importance of factoring in other cooccurring types of abuse.

Cooccurrence of Types of Abuse

With the evolving conceptualization of what constitutes abuse and with researchers being more aware of the risks associated

with examining singular types of abuse in isolation of others, we began to see the incorporation of additional types of abuse into the conceptualization of "cumulative abuse" (Briere & Jordon, 2004). For example, research has illuminated a broad array of abuse types including psychological abuse (Basile et al., 2004; Coker, Smith, Bethea, King, & McKeown, 2000; Mechanic et al., 2008; Pico-Alfonso et al., 2006), stalking and harassment (Basile et al., 2004; Mechanic et al., 2008; Moracco, Runyan, Bowling, & Earp, 2007; Tjaden & Thoennes, 1998), workplace bullying (Dewa, Lesage, Goering, & Caveen, 2004; MacIntosh, 2005), and witnessing violence (Felitti et al., 1998) that have all been found to independently contribute to poorer health. This growing awareness that acts of abuse tend to cooccur began to complicate research into health outcomes and spurred interest in the examination of the cumulative impact of multiple types of cooccurring abuse (Briere & Elliott, 2003; Coker et al., 2000; Eby et al., 1995).

Many of the early studies that examined the unique impact of cooccurring types of abuse on health did not explicitly conceptualize cumulative abuse per se, but findings rather consistently suggested that children and women who had experienced more than one "type" of abuse, primarily physical and sexual abuse, were at risk for more severe symptomatology and more health problems than those who experienced only one "type" of abuse (Hart, Mader, Griffith, & deMendonca, 1989; Shields & Janneke, 1983; Walker, 1984). Although a few of the more recent studies have done a better job of explicitly conceptualizing the phenomenon of cumulative abuse by conceptualizing it as "the greater number of different types of abuse experienced," many continue not to do this, creating much confusion within the cumulative literature. In essence though, regardless of whether the concept has been implicitly or explicitly conceptualized and despite different terms used, research has consistently supported that the more types of abuse experienced, or cumulative experiences, the worse the health outcomes (Basile et al., 2004; Thompson, Arias, Basile, & Desai, 2002).

Some researchers have diverged from solely including abusive experiences to take on a broader cumulative adversity perspective in examining the concept of cooccurrence, in which cumulative experiences are conceptualized as an accumulation of a multitude of adversities, inclusive of, but not limited to abuse (Felitti et al., 1998; Turner & Lloyd, 1995). This appreciation for the broader impact of both abusive and nonabusive adversities has been in part a reflection of conceptual and methodological advances in the study of childhood stress and trauma (Schilling, Aseltine, & Gore, 2008). One of the more seminal works in this area has been the Adverse Childhood Experiences (ACE) study conducted by Felitti and colleagues (1998). This large-scale epidemiological study of 9,508 adults sought to examine a broad array of adversities experienced before the age of 18 years and their associations with risk behaviors and diseases in adulthood. Adversities extended beyond the traditional types of abuse (emotional, physical, or sexual abuse) to include witnessing domestic violence, parental marital discord, growing up with mentally ill, substance abusing, or criminal household members, all of which have been independently associated with poorer physical and mental health outcomes. The researchers acknowledged that adverse experiences rarely occur in isolation and are highly interrelated, thus conceptualizing cumulative effects as being the total number of adverse experiences. Consistent with their hypothesis, the greater number of cumulative experiences resulted in even more pronounced negative effects on health outcomes, supporting a strong cumulative dose–response relationship between the number of childhood adversities and many diseases in adulthood.

Numerous other studies have since conceptualized cumulative experiences in a similar way further supporting this dose–response relationship (e.g., Briere et al., 2008; Moeller, Bachmann, & Moeller, 1993). For example, Edwards, Holden, Felitti, and Anda (2003) in their examination of multiple forms of childhood maltreatment and their relationship to adult mental health outcomes conceptualized cumulative abuse as "multi-category maltreatment experiences," and found that a greater number of women within the multicategory maltreatment groups exhibited worse mental health scores in a dose–response fashion compared to those in the single category abuse group. Follette, Polusny, Bechtle, and Naugle (1996) in their study of the relationship between trauma symptoms and a history of child sexual abuse, adult sexual assault, and adult physical abuse conceptualized cumulative trauma as "multiple traumatic experiences" believing that as the number of different types of traumas increased, symptomatology would also increase.

More recently, terms such as polyvictimization and polytraumatization have emerged, which although termed differently, essentially conceptualize cumulative experiences in a similar fashion claiming that high-cumulative levels of a broad array of multiple types of victimizations or traumas exert a compounded risk on health. However, this way of conceptualizing cumulative experiences is more concerned with the number of different adversities regardless of the broader "category" or "type" of experience (Finkelhor, Ormrod, & Turner, 2007; Finkelhor et al., 2005; Gustafsson et al., 2009; Richmond, Elliott, Pierce, Aspelmeier, & Alexander, 2009; Sabina & Straus, 2008). Regardless of the terms used, the findings have remained consistent: the cumulative number of different abusive or adverse events is highly predictive of worse health outcomes beyond that accounted for by any single type of victimization or adversity (Briere et al., 2008; Edwards et al., 2003; Finkelhor et al., 2007; Gustafsson et al., 2009; Richmond et al., 2009).

Lifetime Abuse Perspective

Despite support for a dose–response type of relationship, a significant portion of the aforementioned studies have confined their examination of abuse to a distinct period of time or development, such as childhood or adulthood, thereby negating a lifespan perspective (e.g., Basile et al., 2004; Bonomi, Anderson, Rivara, & Thompson, 2007; Briere et al., 2008; Edwards et al., 2003; Felitti et al., 1998; Moeller et al.,

1993). This approach is a notable caveat in how cumulative abuse has for the most part been conceptualized; it violates the basic premise of the theory of chronic stress, in which the effects of abuse are pervasive and can have chronic, long-lasting physiological implications for health (Dutton et al., 2006; McEwen, 1998; Sapolsky, 1994). Given the persistent and long-term effects of abuse on health, it becomes imperative to not only include recent abusive experiences or experiences of a single type of abuse in research but rather all abuse experiences occurring across the lifespan (Campbell, 2002; Kilpatrick, 2004; Richmond et al., 2009).

Out of this noted limitation emerged a lifespan perspective in which the basic conceptualization of cumulative abuse was expanded to include cumulative exposure to a number of different types of abuse and/or adversities across the *lifespan*. Collectively, findings from lifespan studies have supported the dose–response relationship, highlighting the value of examining an entire life history of abuse so not to falsely attribute health outcomes to abuse sustained at specific points in time (Alvarez et al., 2009; Banyard et al., 2008; Follette et al., 1996; Krause et al., 2004; Woods & Wineman, 2004). Importantly, a lifespan perspective has suggested that women do not habituate to repeated abuse but rather exhibit increasing levels of symptomatology (Follette et al., 1996). Unfortunately, many of these studies have only examined a few types of abuse, so what remains unclear in the cumulative literature is whether every different type of abuse or experience of abuse has an incrementally worse impact on health? Or does there come a point when the cumulative impact on health becomes capped, in which no differences are seen?

Although the lifespan perspective has contributed to our understanding of the importance of examining cumulative abuse over a lifetime, caution must be taken when appraising the literature as some researchers use the term "lifetime" in their conceptualization of cumulative abuse but in actuality they are only examining lifetime experiences of a particular form or type of abuse, such as intimate partner violence, and not any other abusive experiences at any other point in the women's lives (e.g., Bonomi et al., 2007). As well, many studies continue to conceptualize cumulative abuse as involving only one or two types of abuse across the lifespan without controlling for, or including, other potentially cooccurring types (e.g., McGuigan & Middlemiss, 2005; Polusny, Dickinson, Murdoch, & Thuras, 2008).

Another critique in continuing to conceptualize cumulative abuse as simply "the greater the number of types of abuse, the worse the impact on health" is that it assumes abuse experiences are homogenous and that individual abuse characteristics are insignificant (Banyard et al., 2008; Bogart, Levendosky, & von Eye, 2005). However, there is considerable empirical evidence to suggest that an independent dose–response relationship exists between abuse characteristics and health, in which greater severity, duration, and frequency of abuse, as well as recency of the experience, relationship to the perpetrator, and number of perpetrators, have all been implicated as powerful predictors of worse health outcomes among women (Arata, 2000; Bogart et al., 2005; Bonomi et al., 2006; Cloitre, Cohen, Edelman, & Han, 2001; Finkelhor et al., 2007; Ford-Gilboe et al., 2009; Kaysen, Resick, & Wise, 2003; Kendall-Tackett, 2003a; McNutt, Carlson, Persaud, & Postmus, 2002; Pico-Alfonso, 2005).

Messman-Moore and colleagues (2000) provided an excellent example of the potential influence of abuse characteristic in examining health outcomes. When both revictimization (child sexual abuse and adult sexual abuse, physical abuse, or both) and cooccurrence (physical and sexual abuse in adulthood only) were examined within the same study, health outcomes varied depending on these two different ways of viewing cumulative abuse. So what becomes unclear is to what extent recency of abuse (e.g., cooccurrence of abuse in adulthood *only* vs. lifetime child and adulthood revictimization) interacts to produce the variations in these health outcomes. This underscores the importance of considering abuse characteristics to provide a more comprehensive understanding of the reality of the cumulative abuse experience and its full impact on women's health.

A further limitation has been the lack of attention given to the unique influence of individual types of abuse within the cumulative relationship. The individual type of abuse experienced has been found to produce different health outcomes. For example, physical abuse results more commonly in physical injuries (Arias, 2004); sexual abuse has been associated uniquely with sexually transmitted diseases (Molina & Basinait-Smith, 1998); and psychological abuse has been found to be more strongly associated with an increased risk for poor health, depressive symptoms, substance use, and developing a chronic disease than that of physical abuse (Coker et al., 2002). Furthermore, Woods and colleagues (2005) found varying alterations in immune status depending on the different type of abuse examined. Bonomi and colleagues (2007) established that sexual intimate partner violence, either with or without physical abuse, resulted in increased depressive symptoms compared to women with a history of only physical abuse, suggesting that the presence of sexual abuse adds something worse to health effects. There is also limited information available to determine whether certain combinations of types of abuse result in worse health outcomes than others (Edwards et al., 2003). These findings emphasize the limits of conceptualizing cumulative abuse as simply the cumulative impact of each additional type of abuse on health and suggests the importance of distinguishing and disentangling not only the different types of abuse within a cumulative relationship but also paying attention to the patterns of cumulative abuse to look at possible interactive effects of different types of abuse on health. In other words, it is necessary to understand the important and unique contribution of each type of abuse within a cumulative relationship in order to fully appreciate the value of a more profile-centered approach in examining the combination of different types of abuse and abuse characteristics.

Cumulative Patterns of Abuse

"Life histories of victimization vary tremendously—ranging from a lone incident to a series of chronic related events over

time to multiple discreet, unrelated events unfolding across a life course" (Pimlott-Kubiak & Cortina, 2003, p. 528) and these different configuration of experiences can result in different health outcomes (Kira et al., 2008). This awareness of the variability in abuse experiences lead to a shift in the late 2000s, when researchers became interested in examining the heterogeneous patterns within the context of cumulative experiences of abuse. Although not explicitly defined, these studies conceptualize cumulative abuse as the impact of different patterns of collective abuse experiences on mental and physical health (Campbell et al., 2008; Carbone-López, Kruttschnitt, & Macmillan, 2006; Cavanaugh et al., 2009; Dutton, Kaltman, Goodman, Weinfurt, & Vankos, 2005). Together these studies have demonstrated that not only do patterns reflecting a greater cumulative number of types of abuse (summative score) contribute to poorer health outcomes but also the configuration of abuse types within the patterns uniquely influence health outcomes. For example, in a study conducted by Campbell and colleagues (2008) higher levels of *sexual abuse* were found to be particularly detrimental to health above and beyond the sheer cumulative number of types of abuse.

These patterning studies have been successful in advancing our understanding of the variability of the cumulative experiences of abuse and have attempted to take into account abuse characteristics such as severity and duration, as well as extracting the unique influence of individual types of abuse (e.g., Dutton et al., 2005). However, to date these studies too have often encountered reoccurring problems commonly seen in the cumulative literature, such as not systematically including all types of abuse across the lifespan.

Summary

The overall importance of the phenomenon of cumulative abuse has been well-recognized within the empirical arena. However, very few studies have adequately conceptualized the concept of cumulative abuse. More commonly, the concept has been implicitly threaded throughout research studies and its impact highlighted in the findings section. The reason for this may lie in the subtle nuances of how different researchers and disciplines have conceptualized cumulative abuse over time, which has lead to great confusion and a general lack of consensus of what the phenomenon should entail and be called. Nonetheless, research has supported the notion that "more is worse" in terms of the sheer number of different types of abuse experiences. Yet, the empirical literature also suggests that the phenomenon of cumulative abuse and its relationship to health is much more complex than simply conceptualizing it as the sum of victimization experiences. Embedded in abuse histories are both individual and abuse characteristics as well as other life adversities that need to be considered in order to fully understand the spectrum and magnitude of cumulative abuse and its impact on women's health. This review highlights the need for researchers across disciplines to work collaboratively to come to some consensus on how cumulative abuse should be defined and conceptualized, so that there is consistency in how this phenomenon is researched in the future.

Operationalization

Despite evolution in how cumulative abuse has been conceptualized, how it has been operationalized has remained fairly simplistic and consistent over time. The evidence that the greater the number of accumulated types of abuse experienced, the worse the health outcomes has resulted in the operationalization of this concept as simply "the sum of the total number of different abuse experiences" (Casey & Nurius, 2005; Felitti et al., 1998).

The most basic approach to operationalizing cumulative abuse has been to categorize women according to their experience of either a singular type of abuse (e.g., physical *or* sexual) or their experiences of two or more types of abuse (physical *and* sexual) at one point in time (e.g., childhood or adulthood), hypothesizing that the category with the combined experiences would capture the effects of cumulative abuse on desired health outcomes (Bonomi et al., 2007; Sabina, Strause, et al., 2008; Thompson et al., 2002). Others have taken this one step further combining categories based on developmental or temporal parameters to capture the importance of a lifespan perspective (e.g., Arata, 2000; Kimerling et al., 2007; McGuigan & Middlemiss, 2005; McNutt et al., 2002; Messman-Moore et al., 2000). For example, Fogarty and colleagues (2008) operationalized cumulative experiences of physical and sexual abuse by creating four categories of variables: no abuse, childhood abuse, adulthood experiences of abuse, and a combination of both child and adult experiences. Operationalizing cumulative abuse is this manner allowed for the differentiation between childhood abuse, versus adult victimization, versus lifespan cumulative effects of both childhood and adult exposures on health outcomes.

Another approach has been to operationalize cumulative experiences in a more continuous fashion, in which the unweighted sum of all scores indicating the number of different *types* of abuse have been summed to create a total "count" of experiences (Alvarez et al., 2009; Banyard et al., 2008; Briere et al., 2008; Edwards et al., 2003; Felitti et al., 1998; Finkelhor et al., 2007; Follette et al., 1996; Gustafsson et al., 2009; Krause et al., 2004; Polusny et al., 2008; Richmond et al., 2009; Turner & Lloyd, 1995; Woods & Wineman, 2004). For example, Briere and colleagues (2008) summed up the number of affirmative responses from a list of multiple childhood traumatic events creating a score ranging from 0 (no reports) up to 8 (indicating experiencing a total of eight identified traumas).

Although these "count" studies provide evidence that "more is worse," a notable limitation is that again homogeneity within abuse experiences is assumed. Therefore a drawback to this manner of operationalizing cumulative abuse is that it negates the influence of abuse characteristics, such as severity, duration, and frequency, on health outcomes as previously noted in the conceptualization section. Although there has been some indication in the literature (e.g., Haller & Miles, 2004)

that "counts" of types of abuse are positively associated with severity of abuse, and thus potentially serve as a proxy for severity and chronicity, much more work needs to be done in this area. Moreover, others have found that number of types of abuse experienced and severity of abuse have an *interactive effect* to predict greater levels of symptomatology, which highlights the importance of considering both abuse types and abuse characteristics in research involving survivors of abuse (Clemmons, Walsh, DiLillo, & Messman-Moore, 2007).

Furthermore, although a simple count of the number of different types of abuse appears to be a powerful predictor of negative health outcomes, using the unweighted sum of scores contradicts the growing empirical evidence that suggests not all victimizations are created equal and that some victimizations are more deleterious than others (Bonomi et al., 2007; Boxer & Terranova, 2008; Finkelhor et al., 2005). In order to address this, weighting techniques would need to be used in analysis, which poses considerable complexities and has yet to be done with much success (Finkelhor et al., 2005). Moreover, simply applying weights to different "types" of abuse still does not take into consideration the aforementioned abuse characteristics (e.g., severity, duration, frequency, etc.) that may, in part, be responsible for the outcomes seen.

With interest mounting in the heterogeneity of abuse experiences (nature and types), there has recently been a shift in how cumulative experiences have been operationalized to that beyond a simple summative count. Within studies that have examined abuse *patterns*, the importance of cumulative abuse continues to be recognized, however, cumulative abuse for the most part has not been explicitly operationalized. Rather more implicitly, the concept is inherent in the premise of examining the cumulative patterns or clusters of victimizations and the belief that the relationships between each cluster is generally characterized by greater probabilities for more cumulative types and severity of abuse (Campbell et al., 2008; Carbone-López et al., 2006; Dutton et al., 2005; Macmillan & Kruttschnitt, 2005). In order to promote a clearer understanding of the concept of cumulative abuse within studies that examine patterns of cumulative abuse, a better job needs to be done of explicitly operationalizing the concept.

Summary

Very little consideration has been given to the variety of ways in which cumulative abuse has been operationalized or how these variations affect study results, a position supported by Schilling and colleagues (2008). Furthermore, as Finkelhor and colleagues (2007) pointed out, it is still unclear whether each additional adversity or cumulative experience makes the outcome worse, or whether some adversities potentate the harmful effects of other adversities. Future improvements into the study of cumulative abuse requires an interdisciplinary effort to examine the potential ways in which the concept of cumulative abuse can most appropriately be operationalized that best reflects the experience of abuse in the lives of women. This involves not only summing different experiences of types of abuse but also appreciating both the influence of abuse characteristics and the heterogeneity of abuse experiences.

Design, Methodology, and Analytical Approaches

Design

Cross-sectional, retrospective, descriptive correlational designs have been the most commonly used design for describing the phenomenon of cumulative abuse and its potential relationship to health. Although not without its value and place within violence research, such designs are limited as they can only demonstrate associations thereby precluding definitive temporal and causal inferences (Arata, 2000; Bonomi et al., 2007; McNutt et al., 2002; Sabina & Straus, 2008). Also critiques have frequently identified intrinsic problems in the validity and reliability of retrospective designs, primarily with respect to recall bias and issues in accuracy and meaning (Spatz-Widom, Raphael, & DuMont, 2004). As such, Spatz-Widom and colleagues (2004) argued for the need for prospective longitudinal studies especially when the research interest is in disentangling some of the complexities in relationships between abuse history and subsequent outcomes. This is especially relevant given the obvious complexities inherent in researching cumulative abuse.

Of the limited number of longitudinal studies conducted examining the concept of cumulative abuse, even though there has been support of a dose–response type of relationship between the number of types of abuse and worse health outcomes, only a few of these studies truly allow for the examination of cumulative abuse in a longitudinal fashion (e.g., Banyard et al., 2008). For example, some researchers have used data pertaining to the concept of cumulative abuse and health outcomes that were measured only in a single wave, thus voiding the benefits of the longitudinal design (e.g., Dutton et al., 2005; Krause et al., 2004). Although longitudinal designs are not exempt from problems, such as considerable costs and the challenges of following participants over time, prospective and longitudinal approaches are important for exposing the complex causal relationship between cumulative abuse and health.

Many of the limitations addressed in how cumulative abuse has been conceptualized and operationalized carry over into problems in how research studies have been designed. For example, very little attention has been given to how the multitude of ways in which abuse has been defined has affected what we know about cumulative abuse and its impact on health. As well, there are a plethora of studies that have documented the unique impact of abuse characteristics such as severity, duration, type, and so forth on health outcomes, suggesting the importance of incorporating these characteristics, or controlling for them in analysis (Arata, 2000; Bonomi et al., 2006; Cloitre et al., 2001; Schilling et al., 2008). However, only a handful of studies

specifically examining cumulative abuse have attempted to do so, and of those that have, many have only taken into consideration a few of the characteristics (e.g., Campbell et al., 2008; Carbone-López et al., 2006; McNutt et al., 2002). Thus, the risk continues to lie in falsely contributing health outcomes to the sheer number of different types of abusive experiences, rather than a more complex interrelationship between the number of types of experiences and abuse characteristics.

Another important critique in how cumulative abuse has been studied has been the underuse of mediators and moderators in investigating the relationship between abuse and health. Not all women who experience abuse exhibit negative health outcomes and rarely is there a simple cause and effect relationship between abuse and health (Bogart et al., 2005; WHO, 2002). For example, resilience, coping, and social supports have long been recognized as important mediators and moderators in terms of health outcomes but have been relatively understudied in the cumulative abuse–health relationship. A better understanding of their role could lead to a clearer picture of not only etiology of negative health outcomes but also enrich interventions, and help to more accurately inform policy and practice. While some researchers are becoming increasingly sensitive to the role of mediators and moderators within the context of cumulative abuse (e.g., Banyard et al., 2008; McGuigan & Middlemiss, 2005), it is apparent that much more research is needed to fully understand their influence within the cumulative abuse–health relationship.

Sampling

What we know about cumulative abuse and its relationship to health has come from an impressive array of clinical, nonclinical, military, university, community, and national-based samples of women (e.g., Banyard et al., 2008; Bonomi et al., 2007; Kimerling et al., 2007; Sabina & Straus, 2008; Thompson et al., 2002; Woods & Wineman, 2004). The majority of these samples have been convenience samples, which risks homogeneity within the sample and limits generalizability of findings (Polit & Beck, 2004). Despite this, sample sizes for the most part have been adequate, especially the large national population-based studies, providing greater confidence in the findings (Carbone-López et al., 2006; Finkelhor et al., 2005; Fogarty et al., 2008; Thompson et al., 2002).

Data Collection Methods

Abuse history data have primarily been collected through individual self-reports (e.g., Arata, 2000; Bonomi et al., 2007; Felitti et al., 1998; Messman-Moore et al., 2000). A drawback to this widespread use of retrospective self-reports is the concern with recall bias, in which factors such as the passing of time, current psychological health, and stress may influence accurate recall (Briere, 1992; Briere & Elliott, 1995; Maughan & Rutter, 1997; Spatz-Widom et al., 2004). However, findings from longitudinal studies in which documented cases of childhood abuse have been available have suggested that, in general, adults' retrospective recall of childhood abuse is likely to underestimate actual occurrence rather than overestimate (Banyard et al., 2001; Williams 1995). As well, it is widely accepted that all types of abuse are underreported to authorities, thus official documented cases likely underrepresent the true prevalence (Bohn & Holz, 1996). Furthermore, as some researchers have suggested, what is really of importance is *how* women remember and attribute past abusive experiences and therefore self-reports should be considered a valid form of inquiry (Miller, Downs, & Testa, 1993).

Measurement

The scales and instruments used to measure abuse vary tremendously in the literature, making it difficult to report collectively on reliability and validity of such instruments, or to make comparisons between studies. What may be of benefit, or at least a beneficial next step, would be a systematic review of the cumulative abuse literature in which methodological quality of studies (reliability and validity) could be more thoroughly critiqued. Furthermore, comparisons among measures are impeded by the use of a multitude of abuse definitions. As such, the use of narrow definitions of abuse versus broad definitions may partially reflect differences in outcomes observed. For example, sexual assault being narrowly defined to mean rape would not capture any other acts of sexual violence or coercion against the woman (DeKeseredy & Schwartz, 2001; Mahoney, Williams, & West, 2001; Murray & Graybeal, 2007). Failure to achieve consensus on what constitutes abuse adds to the complexity of studying and measuring cumulative abuse.

Also worth noting is that either by virtue of design choice or instruments used, some studies have used a limited time frame for measuring an abusive history, for example, physical and sexual abuse within the last 12 months (e.g., Dutton et al., 2005) or emotional abuse within the 12 months (e.g., McNutt et al., 2002). Although these studies may allow for the examination of many types of abuse and their cumulative impact, there continues to be the risk of attributing health outcomes to abuse experiences within these limited time frames, negating the unmeasured effects of experiences outside such time frames.

Data Quality

The response rates among studies have fluctuated tremendously, and with few exceptions lean toward the low side, which is not uncommon in abuse research given the sensitive nature of the topic (WHO, 2002). As low response rates can introduce biases into study findings and affect quality of the results, it is important when possible to compare characteristics of those who decline participation against characteristics of those who do participate (Fogliani, 1999; Templeton, Deehan, Taylor, Drummond, & Strang, 1997). And while a few studies

have done so (e.g., Bonomi et al., 2007; Edwards et al., 2003), most have not which raises concern about possible inherent differences among these two groups of women. This can potentially further impact our understanding of the impact of abuse on health and restricts the generalizability of findings.

Abuse affects women of every race and ethnicity, yet it is known that some women have additional vulnerabilities based on social, economic, and political barriers entrenched in race, ethnicity, and culture (Gunter, 2007; Humphreys et al., 2005). Research efforts examining the effects of abuse on health have done a rather adequate job in having diverse populations represented through national, epidemiological, and clinical studies (e.g., Banyard et al., 2001; Finkelhor et al., 2007; Hedtke et al., 2008; McGuigan & Middlemiss, 2005). However, it must be noted that the majority of the samples are still predominantly English-speaking Caucasian women (e.g., Hedtke et al., 2008). Also, to date there remains limited research that examines the influence of race, ethnicity, and culture specifically on health outcomes especially within the context of cumulative abuse. Forging ahead in an attempt to better understand the concept of cumulative abuse, it becomes imperative to design studies that are sensitive to race, ethnicity, and culture.

Statistical Control

If the interest is in deconstructing cumulative abuse to examine the unique impact of *one* particular type of abuse on health, then it becomes imperative to control for other types. However, if the interest is in examining the effects of cumulative abuse on health, then it is necessary to include a broad array of abuse types across the lifespan so that findings do not wrongly attribute health outcomes to a handful of specific types of abuse at a specific period of time rather than the cumulative impact of all forms of abuse across a lifetime (Felitti et al., 1998; Saunders, 2003). Further adding to the complexity is a growing awareness that other nonabusive adversities (such as witnessing violence, unstable family life, illness, serious accidents, divorce, and so forth) are often embedded in the larger context of abuse and can interact to produce negative effects on health as well (McEwen & Lasley, 2002; Turner, Finkelhor, & Ormrod, 2006). These are concepts that need to be included in the larger theoretical model. And while a greater number of researchers are including or controlling for these more diverse adversities (e.g., Briere et al., 2008; Felitti et al., 1998; Finkelhor et al., 2005), many are not resulting in the need to cautiously interpret health outcomes when they are related to only a few types of abuse/adversities.

When the interest is explaining variability in health outcomes, decades of research has clearly demonstrated the need to control for potential confounding extraneous factors such as age, race/ethnicity, socioeconomic status, and educational level (Gunter, 2007; Schnurr & Green, 2004; Sorenson, 1996; Weaver & Resnick, 2004). Yet, it is apparent that not all studies consistently control for these confounding factors, which may result in an overestimation of the strength of the relationship between cumulative abuse and health outcomes (Roosa, Reinholtz, & Angelini, 1999; Saunders, 2003). Moreover, when comparison groups have been used, they have not always been designed in the most advantageous manner. If truly respectful of the basic premise of cumulative abuse, in which adverse events over a lifetime can accumulate and compound leading to greater negative health outcomes, then the importance of using a comparative group that has *no* lifetime abuse history becomes obvious. However, some researchers use a comparative group in which abuse has not been experienced within a certain time frame, for example, within the last 12 months (e.g., McGuigan & Middlemiss, 2005) which negates the impact of an abuse history prior to 12 months and may inadvertently lead to the examination of the differences between distal and proximal abuse rather than abuse versus no abuse.

Analytic Techniques

A cumulative classification model has probably been the most predominantly used model in guiding analytic techniques. This model is congruent with how the majority of researchers have operationalized cumulative abuse; that the sheer number of experiences is what is important in predicting negative outcomes not the presence of any specific type of experiences (Boxer & Terranova, 2008). Within this model, some researchers have used bivariate statistical analyses such as analysis of variance (ANOVA) and correlations, while the majority have progressed to using more complex multivariate analytic approaches such as logistic and multiple regression analyses, analysis of covariance (ANCOVA), multiple analysis of covariance (MANCOVA), and structural equation modeling (e.g., Arata, 2000; Banyard et al., 2001; Briere et al., 2008; Campbell et al., 2008; Finkelhor et al., 2007; Kimerling et al., 2007; McGuigan & Middlemiss, 2005; Messman-Moore et al., 2000; Thompson et al., 2002).

Collectively, these analytic approaches within a cumulative classification model have provided utility in examining the concept of cumulative abuse and have supported a dose–response type of relationship in which more cumulative abuse is related to poorer health outcomes. However, a shortcoming of this model is that it does not operate on the premise that some types of abuse are inherently more detrimental than others, or that certain combinations of abuse may produce worse outcomes than others (Boxer & Terranova, 2008). In order to address this, weighing techniques would need to be used as outlined previously, however, simply applying weights to different "types" of abuse still does not take into consideration other factors such as abuse characteristics (e.g., severity, duration, frequency, etc.) that may, in part, be responsible for the outcomes seen. Schilling and colleagues (2008) poignantly highlighted this in their study of the impact of cumulative childhood adversity on the mental health outcomes of high school students in which they caution against simply assuming that a basic linear association exists between cumulative adversity and health outcomes. In their analysis, both a linear and a quadratic model approach were used. Findings from the linear

model falsely lead to the assumption that a simple cumulative impact of each additional adversity existed on mental health. The quadratic model, however, further revealed that "this acceleration effect was an artifact of the confounding of high cumulative adversity scores with the experience of more severe events" (p. 1148). Thus, respondents with higher total cumulative scores had disproportionally poorer mental health scores in part because of the *severity* of the adversities, not solely because of the cumulative *number* of different types of adversities experienced. This again underscores the complexity of examining cumulative experiences and the importance of including abuse characteristics such as severity in order to provide a clearer picture of the cumulative impact of abuse on health.

A major drawback of the aforementioned analytic approaches is that for the most part they have been rooted in a variable-oriented approach, which assumes that samples being investigated are sufficiently homogeneous so that information on overall trends of relationships among variables of interest can be created (Nurius & Macy, 2008). However, this approach has its limitations as it does not take into account the complexity and heterogeneity of abuse nor the cooccurrence of multiple types of abuse that is often a reality for many women. In contrast, a person-oriented approach assumes that meaningful subgroups exist within any sample that is drawn from a population (Bogart et al., 2005; Nurius & Macy, 2008). "Person-oriented methods are based on varying statistical approaches to clustering or classifying groups of people based on the comparability of their values or locations on an array of variables" (Nurius & Macy, 2008, p. 396).

This appreciation of the heterogeneity of abuse coupled with methodological advances has lead to the recent use of clustering techniques, such as latent class analysis (e.g., Carbone-López et al., 2006; Cavanaugh et al., 2009; Macmillan & Kruttschnitt, 2005) and hierarchical and iterative cluster analysis (e.g., Campbell et al., 2008; Dutton et al., 2005) to examine the relationships among cumulative abuse and health. An important statistical advantage to such a method is that it allows researchers to take into consideration multidimensional abuse characteristics as well as the cooccurrence of different types of abuse (Carbone-López et al., 2006). In other words, "count studies" may expose a group of women who have all experienced three types of abuse, but not necessarily the same three types, whereas clustering techniques would reveal groups with high probabilities of similar types of abuse histories (Cavanaugh et al., 2009). However, it must be cautioned that just because such analytic techniques allows for the creation of various subgroups, does not always mean they are meaningful. Therefore it is imperative that researchers use theoretical rational to decide the meaning and utility of the groups/clusters formed.

Recently, there has been a surge in the use of these clustering/patterning techniques in the study of abuse and health (e.g., Campbell et al., 2008; Carbone-López et al., 2006; Cavanaugh et al., 2009; Dutton et al., 2005; Macmillan & Kruttschnitt, 2005). Together these studies have not only provided greater evidence for heterogeneous patterns of abuse among women but have also demonstrated that health outcomes actually differ according to various abuse patterns (Cavanaugh et al., 2009). Further, and of particular importance, has been the empirical evidence to suggest the cumulative effects of either increasing number of types of abuse, or increasing severity of abuse, or a combination of both, exist and have an unique influence on health outcomes (Cavanaugh et al., 2009). As suggested by Nurius and Macy (2008), being able to identify meaningful subgroups with variations in cumulative abuse patterns and understanding differences in health outcomes has important implications for the future direction of health prevention and treatment programs as it pushes health care professionals to consider the heterogeneity of cumulative abuse experiences.

The complexity of trying to incorporate all abuse characteristics and potential mediators and/or moderators into a research study is obvious and continues to be an obstacle for researchers. Currently there are no perfect solutions or analytic techniques that can accommodate all the intricacies of examining cumulative abuse, and designing one study that would do so would be impractical at best. For cumulative abuse research to advance and further contribute to our understanding of the complex interrelationships between abuse and health, researchers need to be aware of methodological problems that have plagued studies to date, address limitations, try not to repeat past mistakes, and work together regardless of individual disciplines to devise creative and innovate new ways to study the phenomenon of cumulative abuse.

Limitations

The present review has limitations that should be considered. It is important to acknowledge that this critical review and evaluation of how cumulative abuse has been historically conceptualized, operationalized, studied, and the "categories" deduced to frame the article is from the perspective of one scholar, and so other ways to categorize and historicize articles may be argued. It is also acknowledged that a few studies used to construct this article had primary focuses that were not necessarily the relationship between abuse histories and health. In such cases, these studies examined health outcomes as a secondary aim, which may have lead to the researchers operationalizing and analyzing abuse experiences differently than in research focused on health as the primary outcomes of interest.

Future Directions

This review came about from my own attempts to grapple with the phenomenon of cumulative abuse and how to study and measure it in my own research. Although answers per se are not provided, nor would it be appropriate to do so, this review has laid the foundational work as a starting point for researchers and scholars to move our understanding of this phenomenon and all its complexities forward. For me, insights gained that

seem to be most promising include a better understanding the critical need for a cumulative life history of abuse when studying abuse in the lives of women and the risks that are inherent in not doing so. Also appreciating the complexities in trying to operationalize cumulative abuse and in deciding methodologies to best examine it. For example, using person-centered analytical techniques that allows taking into account abuse characteristics, begins to address some of the historical limitations seen with traditional "count" studies and is a promising step forward.

Overall, it appears to be one of those unique situations whereby the theory is far ahead of the methodology. This is not unlike what we have seen in the study of "change" in longitudinal research. Researchers for generations have been fascinated with studying "change" across time in an infinite number of concepts (e.g., depression, attachment, relationships, etc.). However, it has only been in the last 30 years or so that methodology has been developed to be able to study change well (Singer & Willett, 2003). It appears as though the phenomenon of cumulative abuse is at the same crossroads which gives hope that with intense efforts and interdisciplinary collaboration, we too can overcome current obstacles. In understanding this, it becomes reasonable that this article creates many more questions than there are currently answers for. For example, how do we move toward agreement across and within disciplines in conceptualizing and operationalizing cumulative abuse? How might researchers better capture cumulative abuse inclusive of not only types but also abuse characteristics? How do we more accurately analyze this phenomenon? What theoretical frameworks should be considered in moving toward person-centered analytical techniques? What mediators/moderators are important to pay attention to in the cumulative abuse–health relationship?

Conclusion

While the magnitude of this phenomenon of cumulative abuse is striking and its impact on health is of notable importance, it is surprising how underdeveloped the concept is and the relative lack of attention it has received in the literature. At the most basic level, literature on the phenomenon of cumulative abuse has consistently supported the premise that "more is worse" in terms of health outcomes. However, this review highlights that conceptualizing, operationalizing, and analyzing cumulative abuse as such remains too simplistic and that more work needs to be done. Definite progress has been made and our understanding of the importance of considering a cumulative abuse history over the entire lifespan has been a turning point in how abuse is studied. Yet, there is much to still learn and even if it is not yet possible to design the "perfect" study, researchers can continue to design better studies that will incrementally move our understanding forward. More specifically, future research into cumulative abuse needs to further elucidate the interconnections among types of abuse, other life adversities, abuse characteristics and individual characteristics, as well as the role of mediators and moderators within these relationships.

Finally, too many disciplines and fields of study are seemingly examining the same phenomenon, just calling it something different. It is time that researchers from all disciplines who are interested in the study of abuse and its effects on health work collaboratively in an interdisciplinary manner to discuss this phenomenon of cumulative abuse and how it should be conceptualized, operationalized, and studied. In moving forward, a greater understanding of the cumulative impact of abuse exposure on health will serve to better inform service provision for individuals and meaningfully inform public policy and secondary prevention efforts. Hopefully, this review has offered a point of departure by which researchers can collaboratively work from to address some of the historical limitations of studying cumulative abuse and has prompted interest to build upon the important cumulative abuse research that has been conducted to date.

Critical findings

- Women's experiences of being victimized are often cumulative and heterogeneous.
- Cumulating experiences of abuse have a serious deleterious impact on health.
- Despite recognition of the importance of considering the cumulative nature of abuse in evaluating health outcomes, there is little consensus on what to call this phenomenon or how to study it.
- The current conceptual, operational, and methodological approaches to understanding cumulative abuse have serious limitations that undermine our understanding of this important phenomenon. Continuing to research cumulative abuse in the same way risks falsely contributing health outcomes to the sheer number of different types of abusive experiences, rather than a more complex interrelationship between the number of experiences, individual and abuse characteristics, and life adversities.

Implications for practice, policy, and research

- Researchers from all disciplines who are interested in the study of abuse and its effects on health need to work collaboratively and in an interdisciplinary manner to discuss the phenomenon of cumulative abuse and how it should be better conceptualized, operationalized, and studied in order to provide a more comprehensive understanding of this complex phenomenon.

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Note

1. Often the terms violence and abuse are used interchangeably and with little conceptual clarity. For the purpose of this article, the term "abuse" will be used to denote both violence and abusive acts against women.

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Bios

Kelly Scott-Storey, MN PhD(c), is currently a full time Interdisciplinary PhD student at the University of New Brunswick,

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