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# Children Exposed to Violence: Measurement Considerations within an Ecological Framework

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## ▼ Abstract

The authors argue that children who are exposed to violence constitute a vulnerable and understudied population. Assessment of these children, whether for purposes of research or practice, should meet certain criteria that may not be satisfied with technology presently available to practitioners and researchers. This article presents a number of principles that can improve the precision and utility of practitioner and researcher evaluations and assessments, as well as the instruments that they develop for these purposes.

To be vulnerable is to be open or susceptible to danger or harm. As recent tragic events across the United States have underscored, one of the most susceptible populations to danger and harm today are this country's children. Specifically, children who are exposed to violence or who experience violence directly are at risk for becoming violent individuals themselves, thereby perpetuating a pattern of violence. When children who experience violence live in inner-city neighborhoods, they present an even greater challenge to the research and practice community. Often economically disadvantaged, these children may be exposed to a host of other social toxins such as substandard schools and illegal drugs. <sup>1</sup> As a result, these children are at particularly high risk with respect to their healthy psychological and physical development. Yet in nursing they are an understudied population and a population for which few interventions have been developed and tested.

Because the motivation underlying much of assessment in nursing is to develop meaningful intervention strategies, meaningful assessment should be precise, appropriate, and, above all, relevant to the population for whom the interventions are designed. In this article it is argued that assessment of this vulnerable and understudied population, whether for purposes of research or practice, should meet certain criteria that may not be satisfied with present instrumentation.

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Moreover, it is considered how attention to a number of principles can improve the precision and utility of practitioners' and researchers' evaluations and assessment instruments.

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## AN ECOLOGICAL FRAMEWORK

Because the effect of violence on children is a problem of great complexity and magnitude, it requires examination using a theoretical framework that involves both risk and change. The merit of such a framework depends on how comprehensively it addresses this phenomenon. In its most recent reviews of literature involving children exposed to violence, the National Research Council identified developmental ecological theory as the framework best suited to address the causes, consequences, and treatment formulations for young victims. [2,3](#)

This theoretical framework seeks to understand development within the context of the dynamic and multifaceted nature of change over time. The quality of integration among multiple domains of individual development is key in that successful resolution of early stage-salient issues increases the probability of subsequent successful adjustment. [4,5](#) Because opportunities for growth and consolidation, as well as challenge, do not remain static, newly formed competencies or maladaptations may surface throughout the life course. [5](#) According to this framework, certain negative events within an individual's life span can disrupt the resolution of these developmental tasks. Indeed, the effects of all significant events in a child's life are in part determined by the child's developmental stage and the particular tasks with which the child and the family are engaged, as well as the context within which the development takes place. [5,6](#) The emergence of competence and normal performance in domains of functioning, and understanding how development occurs along various courses or pathways across time, are the major focus of this theoretical framework.

Understanding the contributions of the child's context is also an essential feature of this framework. Context includes orbits of influence such as family, peers, schools, community, and even the sociopolitical and cultural sphere with which the individual interacts as development takes place. These various influences have the potential to alter the course of development and create different pathways or trajectories for children trying to adapt within their contexts. [7,8](#)

According to a developmental ecological perspective, it is futile, if not meaningless, to interpret a child's behavior apart from these contextual influences. Increased exposure of a child to risk factors such as violence makes the successful resolution of developmental issues more challenging for children, thereby increasing the risk of psychopathology, or at the least increasing the likelihood of negative developmental outcomes.

In the same way that a developmental ecological perspective informs negative outcomes, it also helps to explain the successful adaptation of some children, despite the presence of multiple risks and multiple traumas. These can be thought of as "protective factors." [6](#) An increased exposure to risk factors at all ecological levels (family, community, etc) makes the successful resolution of stage-salient developmental issues more problematic for children, resulting in an increased likelihood of negative developmental outcomes and psychopathology. Conversely, such an ecological framework also helps to account for resilient outcomes in some children. The presence of protective factors at any level of the ecology may help explain why some children display successful adaptation in the face of high levels of social toxins. [5,6,8](#) Thus, understanding any behaviors manifested by children requires a thorough understanding of how multiple influences (both risk and protective) combine and interact to shape such behaviors and subsequent developmental outcomes. Greater understanding of both can greatly enhance both research and subsequent practice in terms of prevention and intervention efforts.

Considering the complexity of this model and the realities of both practice and research, three salient principles of assessment emerge from this framework- multivariate risk, multidimensionality, and nomothesis. Each is discussed, and it is shown how consideration of each can result in better assessment efforts with resulting increased relevancy of research and improved practice.

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## CONCEPTUAL IMPLICATIONS OF THE ECOLOGICAL FRAMEWORK

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### Multivariate risk

Research on the effects of social and family risk factors on children's psychological adjustment has documented the harmful effects of exposure to multiple simultaneous risk factors. <sup>9</sup> Longitudinal studies conducted in England and the United States have found that the number of contextual risk factors to which a child is exposed is a more significant predictor of negative developmental outcomes than the particular type of risk factors. <sup>4,10,11</sup> Moreover, they found that the combination of risk factors had a greater effect than the sum of effects of each risk factor. For example, the combined risk factors of poverty, difficult temperament, low birth weight, and multiple out-of-home placements are more toxic and far more predictive of maladaptation than the presence of any one of those factors alone.

Researchers and practitioners concerned with the well-being of children exposed to family or community violence can no longer be satisfied with an understanding of that violence as a univariate risk factor. It is well recognized that there are many types of family violence to which children are exposed. <sup>1,12</sup> Witnessing interpersonal violence, physical abuse, sexual abuse, neglect, emotional abuse, and multiple variations and combinations of these are some examples. In many cases children must not only cope with direct attacks on their own or their caretaker's well-being, but they must do this in the face of a potential host of social pathogens.

The incidence as well as the severity of both child maltreatment and domestic violence is highest in large families and in single-parent families that are living in poverty. Moreover, the contexts of these families are characterized by social isolation and low levels of social support. <sup>1,2</sup> Studies identify the children who are most at risk for being exposed to multiple instances of community and family violence as those who are living in low-income, female-headed households in which substance abuse was a critical factor. <sup>13</sup>

Given the range, severity, and chronicity of exposure to violence that a child may experience, it follows that any consideration of the concept of "exposure to violence" as a dichotomous category in isolation from its contexts is insufficient. Determining the effect of that exposure and designing interventions require a more precise understanding of how other risk (and protective) factors contribute to child outcomes. In keeping with an ecological perspective, comprehensive multivariate assessment of operative contextual influences is essential to a research design, as well as to the formulation of an effective treatment plan.

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### Multidimensionality

Multidimensional assessment and study of children reflect an ecological and developmental approach to their functioning. In lieu of considering a child as a diagnostic category, a multidimensional approach is rooted in the idea that children share certain comparable aspects or dimensions of functioning that are important to their successful future development.

The most significant feature of multidimensionality is its ability to provide more comprehensive and generalizable assessments. The psychology literature is replete with the vicissitudes of unidimensional approaches to practice and to research. Prominent examples are the exclusive dependence on global IQ in diagnosing mental deficiency in children, and the extensive categorical system used to diagnose children's mental disorders-the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). [14,15](#)

The DSM, a commonly used clinical taxonomy, provides a list of mental disorders that fail to take into account the unique dimensions of human beings to adapt, regenerate, differentiate, and reorganize. Its diagnostic categories are aggregated behaviors that fail to consider the nature of human beings as open systems within a contiguous environmental context. [16](#) Moreover, despite its putative attempt to give the categories more dimensionality by its multiaxial system of diagnostics, the axial approach is deficiency focused, and it neglects key sources of competence and support within the child's environment upon which interventions can be built and evaluated.

Its acontextual and cross-sectional nature renders it unable to account for the human capacity to exhibit similar patterns of functioning resulting from qualitatively different structures (equifinality), and for different patterns of overt functioning that stem from similar processes (multifinality). Neglecting these capacities means that any attempt at explanation assumes that people react in similar ways for similar reasons, whereas the similarity of their patterns of functioning may be the result of very different objectives.

In contrast, a multidimensional model of study and evaluation of children offers a comprehensive evaluation of child functioning across differing competencies and across time. An example of such a model has been proposed by Cicchetti and his colleagues, [6](#) who describe a multidimensional framework by which they conceptualize the developmental consequences of child abuse and neglect. This model provides an organizational perspective on development that focuses on the quality of integration within and among the biological, social, emotional, cognitive, representational, and linguistic systems of human functioning. The model has been advanced as the desirable framework by which to study children, and numerous investigations have used this perspective to assess how family violence uniquely affects the emergence of both competencies and maladaptations throughout childhood. [2](#) The principle of multidimensionality of domains of functioning, and their emergence within dynamic contexts that affect those domains over time, is key to an ecological perspective.

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## Nomothesis

Approaching individuals in contexts necessitates that clinicians and researchers employ different approaches to study and practice. Nomothetic and ideographic approaches represent valuable traditions in health care, both for clinical assessment and for research. The ideographic approach comes from the heritage of clinical study and has served as the foundation of volumes of literature in medicine and in nursing. Ideography focuses on a particular individual's developmental and social history, and it focuses on those personal and situational factors that help make each individual unique. [17,18](#) This perspective gives attention to typical and representative features of an individual's health, family life, neighborhood, aptitudes, fears, and aspirations in hopes of answering questions about individual pathogenesis, common manifestations of coping and maladaptation, and probable prognosis. The ideographic approach is reflected in case studies in which specialists strive to understand pathology by building dynamic causal models linking pathogens and sequelae in the life of a given person. It is the art of constructing mini theories that help explain the experiences of a child. [17](#)

However, despite its intuitive appeal and sensitivity to individual experiences,

ideographic inquiry has its limitations. Without a broader understanding of experiences and consequences across many children, it becomes difficult to judge their relative significance in the life of any one child. Search for such broader understanding across the lives of many persons is called nomothesis. [18,19](#)

A nomothetic approach to inquiry does not limit itself to, for example, youth at risk or to those suffering from some disturbance or pathology. Rather, the approach incorporates the study of pertinent experiences and consequences across representative samples of the entire child population in search of normal variation. By knowing what is commonplace or normal within the child population, scholars can have better appreciation for what is truly rare or abnormal. Nomothesis enables learning not only whether pathology exists, but also how comparatively common or severe it is. [19](#)

One illustration of how a nomothetic approach to the study of child psychopathology might inform future study is in the development of assessment instrumentation. Nursing relies heavily on existing norm-referenced instruments developed by other disciplines. Despite the adequate validity and reliability of some of these instruments, such as the Child Behavior Check List (CBCL), [20](#) they are based on information from clinical samples. Information from clinical, nonrepresentative samples cannot automatically be generalized to all children. A nomothetic approach to instrument development provides the grounding of each type of instrument through stratified national samples of appropriately representative child populations. [21,22](#)

Nomothesis not only is relevant to the understanding of the effects of certain events on child development, but it also is relevant in understanding the scope of these events. For example, both child maltreatment and exposure to violence must be understood within a population base. Limiting assessment and study to those children and their families who show up in an emergency department or shelter is clearly limiting attention to a small sample of families and neglecting those that fall outside the scope of the service delivery systems.

This limitation has been recognized in the arena of child maltreatment. To address the problem of children "falling through the cracks" of the child protective services pipeline, the Third National Incidence Study of Child Abuse and Neglect (NIS-3) established a network of sentinel agencies, such as schools and hospitals, to detect children who might not otherwise surface for study and intervention. In this way, they established a more accurate and representative sample to estimate the scope of this very important problem. In keeping with an ecological perspective, the NIS nomothetic approach looks at many cases of child abuse through its sentinel process, as well as through an ideographic approach in which they gather in-depth data on each child.

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## VALIDITY CONSIDERATIONS OF THE ECOLOGICAL FRAMEWORK

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### Construct validity

Given the importance of the developmental ecological framework in guiding inquiry and practice that involve children, it follows that such a model also should be used to guide the development and use of assessment and research instruments. One of the basic tenets of this perspective is that specific constructs (for example, social competence or attention to task) are expressed differently according to the developmental age of the child. [2,4](#) It is necessary to identify important constructs in need of assessment and to employ measurement instruments that reflect these age-appropriate manifestations of the given construct. For example, a researcher or practitioner who is interested in exploring the effect of exposure to chronic family violence on the social competence of a preschool child must first understand that peer interaction in play is a primary

stage-salient issue. Only when an assessment instrument is sensitive to a child's peer play interactions will it adhere to the developmental framework and therefore adequately reflect the construct of social competence in preschool children.

Although it is important for theory to drive the selection of constructs, the clinical malleability of selected constructs is also an important consideration. The wisest course for researchers and practitioners alike is to concentrate on the discovery of characteristics within the child, family, and environment that are most potentially changeable or malleable. Within those that are changeable, efforts should be concentrated on those that are prosocial, resilient, and adaptive—ones that would be considered competencies rather than pathologies. [23,24](#) Such targets of interventions might include learning styles, social skills, or communication skills, because these lend themselves more easily to enhancement. [25](#)

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### Cultural validity

Validity is not a property of an assessment instrument itself. Rather, it is the specific application or interpretation of the instrument that requires validation. [26,27](#) Although Cronbach made this important distinction over three decades ago, professionals continue to discuss the validity of measures without regard to the specific uses of the measures with different populations. [26-29](#)

An example of this was demonstrated by a recent study investigating a widely employed measure for use with preschool children entitled the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA). [30](#) The PSPCSA is a developmentally appropriate instrument that was designed specifically for the purpose of assessing young children's (4 to 7 years of age) perceptions of their abilities and social acceptance. This instrument represents an attempt to provide a domain-specific framework for assessing children. The specific domains identified by the authors are competence and social acceptance. Despite the fact that the measure was developed using a sample of 90 White, middle-class, preschool children from one geographic region, this instrument has been used with diverse groups of ethnic minority children. When administering this scale to over 400 children in an urban, ethnic minority Head Start program, investigators found that analyses failed to produce any psychologically meaningful constructs for this group of children. [31](#)

Replicating Harter and Pike's [30](#) original analytic procedures failed to produce the two-factor competence and social acceptance constructs. [31](#) Factor analysis yielded a statistically sound two-factor solution that bore no resemblance to Harter and Pike's competence and social acceptance constructs. These results suggest that assumptions of validity for use with diverse populations may be misguided, and when these assumptions go unchallenged, investigators and practitioners may develop a false sense of security in the existing knowledge base.

The effects of culture on validity occur on different levels and affect all types of evidence for validity. Factors that may threaten valid assessment with culturally diverse populations may include language barriers, different cultural meanings of a particular construct, and varied interpretations of an observed behavior based on cultural norms. [27,31,32](#) Moreover, relevant content varies from culture to culture and may even vary from geographical location to geographical location, thereby having implications for content validity.

The assessment and instrumentation literature is replete with strategies to achieve culturally sensitive assessment practices, but if strategies such as the equivalency of measures are not sufficient, it may be necessary to develop new measures that are appropriate for that culture. [31-33](#) Co-construction of measures with members of the target culture can help ensure that all relevant content is

included, irrelevant content is excluded, and mutual understanding of the construct is achieved. [30](#)

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#### Contextually relevant assessment

As already mentioned, a developmental ecological perspective emphasizes the importance of context in influencing the development of children. Contextual risk factors clearly are important in influencing children living in violent homes or those who are victims of violence themselves. In order to understand a child's functioning, it is essential to use assessment strategies that take into account these spheres of contextual influences. [5](#) Furthermore, the context in which a child is developing largely determines whether that child's functioning is adaptive or maladaptive. The same behavior in one context may be seen as pathological, whereas it may be quite adaptive given another contextual reality. Without a clear understanding of contextual issues, a true assessment of a salient construct cannot be obtained. This principle is linked closely with the preceding principle on cultural validity because culture largely defines the contexts within which a child develops.

One important component in enhancing contextual relevance of assessment is the use of multiple informants. Multiple informants close to the child, such as parents and teachers, should be enlisted to provide information about their functioning across multiple settings. Behavior is thus understood not in and of itself, but as occurring or not occurring in certain contexts, and it provides a more meaningful picture for study and intervention.

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#### Consequential validity

Any assessment instrument must be relevant and helpful for the purposes that it will be used. The value of a measure in effecting positive results has been termed "consequential validity," and the psychometrician Samuel Messick posits that this is the core of successful measurement and assessment. [27,33,34](#) The ultimate purpose of conducting any assessment is to precisely identify a problem. In turn, precise identification should invoke the most promising intervention or restorative treatment. [35](#) Thus, unless an instrument has sufficient precision to enable practitioners to select particular interventions for patients or aggregates of patients, the instrument is of dubious value.

Moreover, Messick [36](#) suggested that there are ethical and moral elements to the issues of consequential validity as it applies to assessment instruments. He maintained that because of the fiduciary ethic and the obligation to do no harm, professionals are under an obligation to employ instruments that lead to positive social consequences. This means that professionals are under an obligation to minimize any unintended adverse consequences of instrumentation. The adverse results of instrumentation should not be a product of under-representation of certain constructs. For example, in order to assess a child's developmental stage, it makes little sense to focus on the maladaptation of development and limitations of that child without also attending to the issue of competency. Without the inclusion of competence and strengths, our assessments run the risk of feeding into labeling that has the potential to stigmatize.

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#### CONCLUSION

The use of a developmental ecological model with accompanying measurement principles could produce sensitive and responsive research in the area of children and their exposure to violence. Principles of multivariate risk and multidimensionality necessitate including multiple child and contextual variables at multiple points in time. Nomothesis requires a population-level understanding

of the effect of violence and associated pathogens on child development. Attempts to view the effect of family violence on children through the broadest possible lens will ensure a more authentic account of the nature and extent of this social problem.

Achieving high-quality research and high-quality practice with children at risk can be daunting. Research in the absence of precise tools of measurement and assessment poses a considerable challenge. Unfortunately, contextually relevant measures that are sensitive to age-salient manifestations are rare. Moreover, our most vulnerable children from are from highly stressed, low-income families and are often the least likely to be represented in the development, standardization, and norms of available instruments. Unfortunately, these are the children who are most at risk for negative outcomes. There is clearly an urgent need to forge ahead with intervention research, but the use of inappropriate assessment techniques in the course of doing so is a misguided use of available resources.

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