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Commentary

Uses and abuses of the resilience construct: Loss, trauma, and health-related adversities

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The social sciences have no particular claim to the use of the term “resilience.” The word has been in general circulation for centuries and over time has taken on a variety of meanings. In the past several decades, however, resilience has gained currency as a psychological construct, first in the developmental literature on chronic adversity (Luthar, 2003; Masten, 2001) and more recently in the literature on loss, trauma and other forms of acute adversity in adults (Bonanno, 2004). As the construct migrated, from the study of adversity in children to the study of acute events in adults, it was reasonable to anticipate that corresponding changes in the construct’s operational definition would be required. Unfortunately, much of the research on resilience in adults has been carried out without consideration of these modifications. As a result, misuses and misunderstandings have proliferated.

In the hopes of bringing some clarity to the study of resilient outcomes in adults, I first review three approaches that have suffered from serious conceptual misunderstandings: resilience as a personality characteristic; resilience as the absence of psychopathology; and resilience as a general term to connote average levels of psychological adjustment. Next, I review research that avoids these pitfalls by defining resilience as a stable trajectory of healthy functioning in response to a clearly defined event. I conclude the article by describing a set of

methodological criteria to guide future studies of resilience and its predictors.

Developmental origins and conceptual migration

Much of the original theorizing on psychological resilience came from developmental psychologists, psychiatrists and other mental health professionals working in the 1970s. These pioneering investigators had begun to document the large numbers of children who despite growing up in highly aversive circumstance nonetheless emerged as functional and capable individuals (Garmezy, 1991; Murphy & Moriarty, 1976; Rutter, 1979; Werner, 1995).

Chronic adversity in children

An important feature of the early developmental observations, of crucial significance to understanding conceptual variations in the resilience construct, was that most of the early research focused on chronic forms of adversity, such as corrosive socioeconomic circumstances (e.g., poverty) or long-term abusive relationships. As a result, developmental theorists tended to contextualize resilient outcomes as favorable adjustment over a broad sweep of time (Masten, 2001). A child might struggle for years with the stress of an ongoing difficulty, for example, but would nonetheless be considered resilient if he or she eventually met normal developmental milestones and culturally relevant expectations for competence, (Elder, 1998; Masten & Coatsworth, 1995; Waters & Sroufe, 1983) or normative levels of psychological adjustment (Luthar, Cicchetti, & Becker, 2000).

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Acute life events in adults

Research on loss and other forms of potentially traumatic events (PTEs) has focused primarily on adults. As a result, when researchers in these areas began making observations about resilience, the focus of the research also shifted from resilient children to resilient adults. Importantly, because most PTEs are by definition short-lived events, the context of the research on resilience also shifted from chronic adversity to more isolated, acute events (Bonanno & Mancini, 2008; Bonanno, Westphal, & Mancini, 2011). Although there are numerous historical reasons why the research may have originally followed this path, for the most part current research paradigms have continued to replicate this simple bifurcation. Children appear to be exposed to PTEs with approximately the same frequency as adults. Yet there has been surprisingly little research on how children respond to acute life events (La Greca, Silverman, Vernberg, & Roberts, 2002). In a similar vein, adults are exposed to chronic adversity at a prevalence comparable to children (e.g., Hobfoll, Mancini, Hall, Canetti, & Bonanno, 2011), yet the research on adults has remained biased toward isolated PTEs (Bonanno et al., 2011).

Misuses and misunderstandings

Resilience is not a personality variable

Although developmental researchers had documented the importance of personality factors in resilient outcomes (e.g., Kim-Cohen, Moffitt, Caspi, & Taylor, 2004), interest in personality traits expanded noticeably as the study of resilience migrated to adult trauma research. Personality variables show at least some malleability across the lifespan. However, these changes appear to be less pronounced in adulthood (McCrea et al., 2000; Roberts, Walton, & Viechtbauer, 2006), thus suggesting that personality may be more clearly predictive of resilience in adults than in children. Motivated by this assumption, a number of studies have reported associations between personality variables and favorable adjustment in adult samples exposed to PTEs (Bonanno, 2004; Bonanno et al., 2011). Of significance, several studies have demonstrated this association prospectively using measures of personality obtained prior to the PTE's occurrence (e.g., Gupta & Bonanno, 2010; Nolen-Hoeksema & Morrow, 1991; Ong, Fuller-Rowell, & Bonanno, 2010).

Unfortunately, in the vast majority of studies of personality and resilience in adults, the personality variables were measured concurrently with outcome (i.e., after the PTE had already occurred). Given that personality is not impervious to situational and environmental influences (McCrea et al., 2000), it is entirely plausible that the experience of a PTE may inform the personality variable as much as the other way around, especially when the personality variable is measured many months after the PTE (Bonanno & Mancini, 2008).

Compounding this problem, in recent years several ostensible measures of trait resilience have appeared (e.g., Connor & Davidson, 2003; Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003; Wagnild & Young, 1993). The use of such scales appears to be predicated on the assumption that people are resilient primarily because of who they are (i.e., that the scales measure a resilient type). It is certainly possible, of course, that resilience may be a measurable trait. However, personality rarely explains more than a small portion of the actual variance in people's behavior across situations. Moreover, when resilient outcomes are modeled using multivariate designs, it appears that no single variable explains more than a small portion of the variance (Bonanno, Brewin, Kaniasty, & LaGreca, 2010). Thus, the notion of a resilient type at best addresses only a piece of the overall puzzle of determining who will or will not be resilient.

A related problem is that the association of resilience scales to adjustment is commonly measured using cross-sectional data, in which case assumptions about causal relations between measures are impossible to test. Researchers have even begun to employ resilience scales as a proxy for resilient outcomes (i.e., resilience is measured as variations on the trait resilience scale) (e.g., Davidson, Connor, & Lee, 2005). In some cases, resilience scales have been used in the absence even of an actual acute stressor event (e.g., Friborg et al., 2003; Montross et al., 2006), thus narrowing the research to the personality variable by itself, divorced from the actual context of coping with extreme adversity.

Resilience is not the absence of pathology

The study of adult trauma populations has been dominated by research on psychopathology, in particular Posttraumatic Stress Disorder (McFarlane, van Hooff, & Goodhew, 2009). Not surprisingly, another consequence of the shift in resilience research to adult trauma populations was that researchers began to define resilient outcomes solely in terms of the absence of diagnosable psychopathology (e.g., Alim et al., 2008; New et al., 2009). Unfortunately, this change amounted to little more than a semantic substitution and added nothing new to the literature. Because the absence of pathology is automatically defined once pathology is defined, using the term resilience to define the non-pathological state is a conceptual redundancy. Moreover, variables that might predict the absence of pathology will always be the same variables that predict pathology, only with the sign reversed.

A related issue is that since pathological responses occur in only a minority of individuals exposed to a PTE, lumping together all exposed persons who do not show pathology into a single resilience category obfuscates any finer-grained distinctions. To state this point another way, as Almedom and Glandon (2007) have observed, defining resilience as the absence of a disorder is akin to defining health as the absence of disease. As I discuss below, among people exposed to a PTE who do not evidence clear psychopathology, some struggle with sub-threshold symptom levels while others suffer elevated symptoms and distress for short period and then gradually recover, while still others show a relatively healthy profile even soon after the event (Bonanno, 2004). Each of these patterns offers potentially important insights about the ways humans cope or fail to cope with the stress of extreme adversity. In a simple binary model of pathology versus non-pathology, such insights are lost.

Resilience is not generally good health (average adjustment)

A third method that has been inappropriately grafted onto the resilience construct is to examine responses to PTEs in terms of averaged scores on a single, continuous outcome measure (Bonanno et al., 2011). In this method, positive predictors of adjustment are viewed as resilience factors. Average-level data can be extremely useful, as for example when compared in exposed and non-exposed samples as a means of assessing the duration of post-traumatic impact. Averaged scores are also useful in determining within-group predictors of post-traumatic outcome, and are especially informative when meta-analyses are used to summarize data across multiple studies (e.g., Currier, Neimeyer, & Berman, 2008; Norris, Friedman et al., 2002).

However, the limitation of averaged data is the same limitation that constrains the focus on pathology versus non-pathology; comparisons of averaged levels of adjustment provide relatively little information about the distribution of non-pathological reactions or the specific prevalence of resilient outcomes. Perhaps even more importantly, averaged responses are potentially misleading.

For example, averaged responses are often understood as the modal response to an event. Yet, as I illustrate below, in studies that have followed samples with repeated assessments over time, the statistical average often fails to map onto the prototypical patterns of individual variation.

A variant of this approach, equally as problematic, defines resilience using data obtained years after the occurrence of the aversive event (e.g., Wingo, Fani, Bradley, & Ressler, 2010). In this case, even if resilience were operationalized in terms of positive adjustment, it would be impossible to retrospectively determine the course of a resilient person's functioning across time. Consider for example a scenario in which resilient is defined based on data obtained two years after the onset of a potentially traumatic event. Even though a survivor of that event might be symptom free and evidence positive aspects of adjustment at two years, that same survivor may have had Posttraumatic Stress Disorder for a significant portion of time after the event and only experienced symptom remission near the two-year mark. Data obtained at the two-year point could neither document nor rule-out this pattern.

The resilience criteria

Given the misuses and misunderstandings about resilience in the context of adult adversity, how then should the construct be measured? It stands to reason that although resilience is often described as a process, the only logical way to understand that process requires that there is a clearly referenced adversity and a clear, conceptually defensible outcome in response to that adversity (Bonanno, 2004; Luthar et al., 2000). Each of the paradigms I described above fails in some way to satisfy this constraint. However, there are other possible paradigms for studying resilience in the aftermath of PTEs and other highly aversive life events that apply more defensible methodologies.

Resilience as a stable trajectory of healthy functioning

One such methodology, developed by my colleagues and I, attempts to understand resilient outcomes following PTEs in terms of a relatively small set of prototypical trajectories of adjustment over time (Bonanno, 2004; Bonanno et al., 2011). The form and proportion of these trajectories has been remarkably consistent across studies. Most prominent among these trajectories is a long-term outcome pattern I refer to in this article and elsewhere as the resilience trajectory (Bonanno, 2004; Bonanno et al., 2010, 2011).

Specifically, we considered an outcome as evidence of resilience when a person had experienced an extreme adversity but nonetheless still managed to maintain a relatively stable trajectory of healthy functioning and positive adaptation in its aftermath (Bonanno, 2004). The resilience trajectory was explicitly defined in these studies as more than the absence of pathology. Exposed individuals who do not exhibit diagnosable psychopathology might be captured by several distinct patterns of outcome, with the resilience trajectory being only one of the possible patterns. By the same token, resilience also does not necessarily connote a complete absence of a stress response, which has been referred to in the developmental literature as stress *resistance*. To the contrary, even resilient individuals tend to experience at least some transient distress during or in the immediate aftermath of the PTE. Significantly, however, for resilient individuals distress reactions are usually mild and transient and tend not to interfere with their ongoing ability to function (Bonanno, 2004).

Notably, whereas complete stress resistance appears to be relatively rare, transient stress associated with a stable trajectory of healthy functioning, or resilience, is typically the most common outcome observed (Bonanno, 2004; Bonanno et al., 2010, 2011).

This conclusion has emerged consistently in studies of adults exposed to aversive events as far ranging as the death of a spouse (Bonanno et al., 2002), traumatic injury (deRoos-Cassini, Mancini, Rusch, & Bonanno, 2010), divorce (Mancini, Bonanno, & Clark, 2011), job loss (Galatzer-Levy, Bonanno, & Mancini, 2010), terrorist attack (Bonanno, Rennie, & Dekel, 2005; Norris, Tracy, & Galea, 2009), cancer surgery (Lam et al., 2010), disease epidemic (Bonanno et al., 2008), natural disaster (Norris et al., 2009), and military deployment (Bonanno et al., in press). Importantly, the prevalence of the resilience trajectory, operationalized this way, has also recently been demonstrated in studies of children exposed to isolated PTEs (i.e., Le Brocque, Hendrikz, & Kenardy, 2010).

The resilience criteria

To summarize the distinctions describe above and to guide future research, I propose that a methodologically sound study of resilience in the aftermath of an aversive event should meet the following criteria: (1) the temporal bounds of the aversive event are clearly operationally defined, and (2) resilience is explicitly categorized as a stable pattern of healthy adjustment *following* that event that is (a) more than the absence of diagnosable pathology, (b) based on measurements obtained at multiple points in time, and (c) with the initial measurement of outcome obtained relatively near to the occurrence of the aversive event (e.g., within several months or sooner).

Personality and the resilience criteria

The application of specific criteria in the study of resilience should also encompass predictor variables, such as personality. However, for this enterprise to be meaningful it will be imperative to maintain the explicit distinction between outcome (i.e., stable healthy adjustment following adversity) and predictor (e.g., personality) (Luthar et al., 2000). To as much an extent as possible it will be important to conduct research of this type using prospective designs that can distinguish specific personality traits, measured prior to the occurrence of some clearly defined adversity, as unique predictors of resilient outcomes measured after the adversity. Moreover, it will be imperative to demonstrate that such traits predict resilient outcomes incrementally, over and above other predictive factors (Gupta & Bonanno, 2010).

Moving forward

Given the surge of interest in resilient predictors and outcomes, it is potentially of interest to explore these constructs in any data set available. Qualitative studies of putatively resilient samples, for example, provide a valuable source of new ideas and information, especially in populations that have not yet benefited from systematic study (e.g., Rajkumar, Premkumar, & Tharyan, 2008; Zrally & Nyirazinyoye, 2010). However, as the criteria outlined above attest, systematic and empirical analyses of verifiably resilient outcomes is necessarily conservative. Skimping on methodological criteria in the service of convenience not only fails to advance the literature, more often than not, as I have show above, it creates confusion and misunderstanding that pushes science backwards. It is my hope that future studies of resilience following adversity will make greater efforts to incorporate these criteria into their research designs and will pay greater attention to clearly operationalizing resilient outcomes. To achieve this aim, it will be imperative for studies of resilience and trauma to continue to emphasize the use of repeated longitudinal and if possible prospective assessments, with outcome measurements beginning as close as possible to the target stressor event. It will be imperative also to continue to distinguish

the resilient outcome trajectory from other patterns of outcome; not only chronic symptoms and psychopathology, but also patterns associated with recovery and delayed elevations in symptoms as well as other patterns that might emerge in unique samples (Bonanno, 2004; Bonanno et al., 2011).

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