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The Enhancement of Natural Resilience in Trauma Interventions

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When she was 19, Patricia was raped in her dorm room during her second year of college. The assailant was a classmate who had taken Patricia on a number of dates. They were studying in her dorm when the assailant began to make sexual advances. Patricia refused to engage with these advances as she had done in the past. The assailant became angry, and forced himself on to her. She tried to fight back at first, but the assailant overpowered her and threatened to kill her if she screamed. For her own safety, Patricia complied. Following the rape, Patricia was constantly afraid and could not get images of the assault out of her mind. She was crippled by self-blaming thoughts like, “Why did I date him?” “What did I say that made him think I wanted sex?” and “How could I be so stupid?” These self-blaming thoughts prevented Patricia from reporting the rape to the authorities as she feared that they would question her about why she let him into the dorm and whether she had previously been receptive to his sexual advances. Because Patricia’s assailant remained on campus and in a number of her classes, she was unable to attend class and began to isolate herself to avoid any chance of seeing her assailant or being reminded of the assault. She eventually dropped out of school and moved back to her home town with her parents. Suffering from severe depression and PTSD, Patricia was unable to hold down a job and eventually stopped looking for work altogether. Eventually, her concerned parents convinced her to talk to a therapist who referred her for PTSD treatment.

Patricia received 12 weeks of prolonged exposure therapy. Treatment consisted of revisiting the memory of her assault repeatedly in session, as well as approaching situations she was avoiding because they reminded her of the assault. Discussing her trauma memory was especially useful in helping Patricia realize that she was not to blame for the rape. Because Patricia had largely cut out the people in her life that reminded her of the assault, between session assignments focused on reconnecting with some of these individuals, first through social media and then in person. Patricia reported that reconnecting with her friends was the most positive change she made in therapy, and she eventually was able to disclose the

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trauma details to one of these friends, who responded with sympathy and support. This was a turning point for Patricia as it disconfirmed her belief that others would blame her for what happened. She also began to reengage with meaningful activities like going out with friends and playing sports. She found a part-time job and by the end of treatment had even enrolled in some online courses. Patricia ended treatment with substantially decreased PTSD symptoms, and when asked what she felt she gained from treatment, Patricia responded, "I feel like a person again. I have my life back." As she reported at a follow up appointment six months after concluding treatment, Patricia had enrolled at a local community college and had moved into her own place. She even started dating, although still had difficulty trusting others and was apprehensive to sexual interactions. Patricia also reported that she had joined a group at school to prevent sexual assaults on college campuses. When asked why, she explained, "I remember being terrified to talk about my assault, but now that I'm not afraid, I can be the voice for those who are." [1]

Defining Resilience

Is Patricia resilient? Humans possess a remarkable ability to bounce back following stress and trauma. However, different trajectories of response to trauma are not well understood. Posttraumatic stress disorder (PTSD) is one type of pathological response to trauma, and therapy for trauma survivors often focuses on reducing symptoms of PTSD. However, the majority of trauma survivors do not develop chronic PTSD (Riggs, Rothbaum & Foa, 1995; Rothbaum, Foa, Riggs, Murdock & Walsh, 1992; Steenkamp et al., 2012), meaning that much of the treatment literature may be ignoring important processes of recovery following a trauma. However, a growing body of research on resilience after trauma offers an array of theoretical perspectives and empirical evidence with the potential to inform and enhance research on interventions and treatment for PTSD.

Contemporary models of trauma response propose that chronic dysfunction, such as PTSD, is not the only response trajectory following a trauma (Bonanno, 2004; Layne et al., 2009; Layne, Warren, Watson & Shalev, 2007). The model developed by Layne and colleagues depicts seven different ways a person might respond to a trauma: 1) stress resistance involves stable functioning before and after a trauma, 2) resilience involves a temporary decrease in functioning after a trauma followed by recovery, 3) protracted recovery is similar to resilience but with more substantial acute symptoms and slower recovery, 4) posttraumatic growth involves an increase in functioning following a trauma, 5) severe persisting distress involves a decrease in functioning without recovery (i.e., pathology), 6) decline involves temporary maintenance of functioning after a trauma followed by late decompensation, and 7) stable maladaptive functioning involves persistent poor functioning before, during and after a trauma.

In developing this taxonomy, Layne and colleagues' (Layne et al., 2009, 2007) built upon previous models of trauma response (e.g., Bonanno, 2004) in a number of ways that inform our conceptualization of resilience. First, this model explicitly accounts for factors that

[1]This vignette represents a mixture of various clients whom we have seen in our clinical work who have experienced PTSD. Any resemblance to a specific individual is purely coincidental.

occur prior to the trauma, in order to accurately measure relative response. This broadens the scope of the model to address risk/resilience factors beyond PTSD symptom severity. By including a baseline, this model also accounts for the impact of previous traumatic events or other hardships. Specifically, the stable maladaptive functioning trajectory suggests some people have a reduced capacity to respond resiliently to a traumatic event, a scenario that may be especially true for those exposed to multiple traumatic events such as chronic child abuse. The literature supports the notion that trauma history contributes to risk for the development of PTSD (Ozer, Best, Lipsey & Weiss, 2003), and Layne and colleagues' model suggests this effect may be due to lower baseline capacity for resilience. In such cases, successful treatment may require some form of posttraumatic growth in which a person's functioning is elevated to a level higher than their baseline.

In addition to accounting for baseline pathology, this contemporary model defines resilience as recovery from initial dysfunction, in contrast to resistance, a trajectory that does not include initial interruption to functioning. This feature addresses important criticisms of models that suggest the most common reaction to trauma is one where symptom severity and functioning is not meaningfully impacted. As noted by critics (Litz, 2005), this framework is inconsistent with empirical data showing that a majority of individuals experience symptomatology immediately following trauma (Riggs et al., 1995; Rothbaum et al., 1992; Rothbaum & Davis, 2003; Steenkamp, Dickstein, Salters-Pedneault, Hofmann & Litz, 2012). While there are certainly merits to understanding factors associated with resistance in particular, we think the disaggregation of these two concepts is critical to better understanding the nature of trauma response and recovery. Furthermore, Layne and colleagues' more comprehensive model accounts for the temporal differences in recovery by distinguishing between a resilient trajectory (i.e., early recovery) and a protracted recovery trajectory.

These three recovery trajectories (resistance, resilience, and protracted recovery) demonstrate the importance of time in understanding the severity of dysfunction following trauma. Clinicians working with trauma survivors should be aware of these distinctions in order to provide the appropriate treatment. If it is soon after a trauma for example, a therapist's role may be to simply provide support and buttress resilience, while directly targeting symptoms may become more important with the passage of time. Resilience as defined in the current manuscript can include any one of these recovery trajectories in which individuals return to some baseline level of functioning, as well as a trajectory of posttraumatic growth.

Predictors of Resilience

Although theoretical formulations of resilience assume some overlap between risk factors for PTSD and protective factors related to resilience, not all risk factors for PTSD are easily applied to the concept of resilience. As noted by Yehuda and Flory (2007), risk and protective factors may be linked to different quantities along the same dimension, or may be orthogonal constructs that have interactive or moderating effects. For example, trauma severity may directly correlate with PTSD symptom severity, but experiencing social support may negate this effect. Accordingly, factors that predict PTSD may not be the same

as the ones that predict the absence of PTSD and the relationship of these factors to both pathology and resilience is not well understood.

Meta-analyses have identified a number of consistent predictors of PTSD risk in both adult and child samples (Brewin, Andrews & Valentine, 2000; Ozer, et al., 2003; Trickey, Siddaway, Meiser-Stedman, Serpell & Field, 2012), which can inform hypotheses regarding resilience. In general, these findings indicate that for both children and adults, factors occurring during and after the trauma (e.g., trauma severity, perceived life threat, peri-traumatic emotional reactions, post-trauma social support, and post-trauma life stress) are stronger predictors of PTSD than those occurring before the trauma (e.g., demographic variables, prior life stress, or prior trauma). It is important to note that certain risk factors likely influence children differently than adults. For example, Trickey et al. (2012) identified parental psychological problems and poor family functioning as significant predictors of PTSD, which are likely to be less influential in adult samples. Furthermore, some theoretical perspectives suggest that the experience of chronic trauma in childhood leads to a different type of PTSD presentation (e.g., Cloitre et al., 2009) suggesting children may possess different risk and protective factors that may fluctuate depending on developmental stage. Perhaps because of this view, theoretical models and empirical research on the promotion of resilience in children exposed to trauma is somewhat more developed versus comparable work in adult populations. We note that this manuscript is largely focused on research and treatment of adult populations. We are hopeful that increased interest in resilience across the lifespan will bring about advances in empirically supported theory in trauma-exposed adults.

Some proposed predictors of resilience specifically include person centered-factors, like the tendency toward self-enhancement, pragmatic coping strategies, positive emotions, optimism, cognitive flexibility, and emotion regulation skills, as well as environmental factors like social support (Bonanno, 2004; Yehuda, Flory, Southwick & Charney, 2006). Many hypotheses regarding resilience come from studies of posttraumatic growth. Meta-analytic reviews of this literature have identified several predictors of posttraumatic growth, including religious beliefs and practices, the ability to reappraise situations positively, perceived social support, active social support seeking, and optimism (Prati & Pietrantoni, 2009). These findings inform the study of resilience; however, posttraumatic growth is a complex phenomenon with some studies even indicating that it relates to increased symptomatology (Hobfoll et al., 2007). While growth may occur in treatment, especially for those with lower baseline levels of functioning, clinicians working with trauma survivors may not always see “growth” as a result of treatment, as this is not necessary for meaningful recovery.

As evidenced by this long list of factors, the study of resilience in the aftermath of trauma is still very much in the exploratory phase, lacking cohesion and clear organization. For example, one could categorize these factors temporally (e.g., pre-trauma, peri-trauma, and post-trauma) or specify whether they are person-centered/personality or socially-constructed factors. Additionally, the nature of the trauma experienced by the individual, including its chronicity, severity and the developmental time period during which it occurs, potentially moderates the effects of these variables on the construct of resilience. For instance, the

cognitive abilities and behavioral coping options available to a sexual assault victim are likely vastly different depending on if she is middle aged or in middle school.

Psychotherapy and Resilience

Theorized mechanisms of successful treatments for PTSD directly target pathological symptoms. For example, most cognitive behavioral treatment approaches target factors related to a traumatic memory. However, as suggested by Kazdin (2007), theorized change processes in psychotherapy can be informed by our understanding of change processes experienced in everyday life (e.g., psychological change that results from exercising or positive religious experiences). Effective treatments for PTSD impact life experiences beyond symptoms, such as social, family and work functioning (Foa et al., 1999; Foa et al., 2005; Schnurr et al., 2007). However, the mechanism by which treatment affects broader functioning processes is not clear, nor is our understanding of how change in these processes relates to symptom change. In order to improve our current treatments, it may be helpful to change our perspective from seeking symptom reduction to increasing resilience. For instance, research in the field of treatment for depression has shown that therapy focused on bolstering a patient's strengths may be more effective than therapy designed to remedy weaknesses (Cheavens, Strunk, Lazarus, & Goldstein, 2012). Furthermore, an expanded view of trauma response that involves factors beyond symptom severity will enhance the ability for clinicians to incorporate an individual's unique sociocultural background into evidence-based, but still symptom-focused, treatments. Pathways to resilient coping are likely to be influenced by cultural factors (e.g., Alim et al., 2008), and tapping into these resources may facilitate better therapeutic outcomes (Williams et al., 2014). Conceptualizing effective PTSD treatments as powerful ways to harness factors that underlie resilience, as well as reduce pathology, may widen the lens through which we view our interventions.

The current review focuses on how empirically-supported treatments for PTSD can be viewed and informed through the lens of resilience. We emphasize three broad indicators outlined by Feeny and Zoellner (2014) that reflect life experiences and processes that are thought to underlie natural resilience: building supportive social ties, reestablishing normalcy, and making meaning of thoughts and memories. These natural processes aid in recovery following trauma, and likely influence and are influenced by treatments for PTSD. In this article, we first define these resilience processes, provide evidence of their role in typical post-traumatic resilience, and illustrate some of the key clinical approaches that parallel and influence these processes.

Social Support

The weeks and months that follow a traumatic experience can be extremely draining and overwhelming. Social support is a factor related to both risk for PTSD (Brewin et al., 2000) and posttraumatic growth (Prati & Pietrantoni, 2009). While the mechanisms of this effect are not well understood, it is clear that social support is a critical process of recovery. However, individuals may struggle to utilize or maintain social contacts in the aftermath of a trauma. In our opening vignette, we described how Patricia faced such difficulties after her rape. Her fear and anxiety led to social withdrawal and isolation, contributing to growing self-criticism and depression. Furthermore, Patricia's negative beliefs about how her friends

might respond to learning of the rape, as well as her feelings of anger for their failure to prevent the attack, reduced her willingness to rely on them for help. Her story typifies the challenges many trauma-exposed persons face in seeking out social support, and also highlights the role that therapy can play in resolving some of these difficulties.

Social support is a multifaceted construct, and its impact on resilience and recovery after trauma can be assessed in many ways. For instance, researchers have explored differences in types of social support, including emotional versus instrumental support (Sherbourne & Stewart, 1991), perceived versus received support (Dolbier & Steinhardt, 2000), and quality versus quantity of support (Cohen & Wills, 1985; Hyman, Gold, & Cott, 2003). While it is clear that social support defined broadly impacts the development of PTSD, it is necessary to identify the most effective types of support for recovery after a trauma.

Social support likely relates to trauma reactions in a number of ways. First, as shown in the case of Patricia, PTSD can degrade pre-trauma levels of social support. Empirical evidence supports this contention: for instance, in a five-year study of Veterans with PTSD, early symptom severity strongly predicted future reductions in social support (King, Taft, King, Hammond & Stone, 2006). Second, there is some evidence that different types of social support may be particularly helpful for certain types of traumas; for instance, among survivors of childhood sexual assault, self-esteem promoting relationships appear to be more critical to recovery than more general forms of support such as material aid (Hyman et al., 2003). Third, efforts to seek social support are not always successful, nor is the social feedback received uniformly positive. In fact, individuals who receive negative comments from social contacts (such as victim-blaming statements) appear to be at greater risk of subsequent PTSD symptoms (Zoellner, Foa, & Brigidi, 1999). Finally, social support provides an important context for several other processes which may be pivotal to resilient responding, including trauma disclosure. This body of research suggests that effective social support following trauma involves proper management of symptoms, meaningful relationships, and positive feedback to disclosure. For those who do not recover following trauma, treatment can be a first step to building and maintaining supportive social ties.

Therapeutic Processes that Encourage Social Ties

As evident from the preceding section, social support plays an important role in resilience after trauma, but the precise ways in which it affects outcomes may be quite complex. In this section, we highlight several specific ways in which psychological treatments for PTSD promote social support and resilient coping in those who do not bounce back naturally after a trauma, including modeling social support through the therapeutic relationship, reducing symptoms, and encouraging disclosure.

Therapeutic alliance—The first and most direct example of therapy fostering social support lies in the therapeutic alliance itself. Strong therapeutic alliance, broadly defined as the affective bond between therapist and patient, has been shown to be related to positive treatment outcome across a number of treatment types and psychological disorders (e.g., Horvath, Del Re,Flückiger, & Symonds, 2011) including PTSD (e.g., Cloitre et al., 2004; Aguirre-McLaughlin, Keller, Feeny, Youngstrom & Zoellner, 2014). From a resilience

perspective, the relationship between the therapist and patient likely provides a form of social support that might, in and of itself, lead to better outcomes. For example, an individual suffering from PTSD who lacks close relationships and emotional support may struggle to find a safe way to discuss their trauma, their symptoms, and their general well-being. A warm, encouraging and supportive therapist provides a safe context for which to engage in this kind of social support, which may be particularly important when strong negative emotions such as shame and guilt are involved. Furthermore, when individuals are provided a model for supportive relationships, they may be more likely to seek out such relationships in their lives. In a study of individuals seeking treatment at a university psychology training clinic, Mallinckrodt (1996) found that a strong therapeutic relationship predicted change in patients' perceived social support, which in turn predicted symptom reduction. Because the therapeutic relationship can have an impact on a patient's broader social context, it is especially important for therapists to attend to this relationship to help build resilience.

Symptom reduction—Many key symptoms of PTSD can contribute to deterioration or poor levels of social support, including avoidance behaviors, affective instability (e.g. anger outbursts), anhedonia, and emotional numbing. Fortunately, the established efficacious therapies for PTSD, such as prolonged exposure (PE; Foa, Hembree, & Rothbaum, 2007) or cognitive processing therapy (CPT; Resick & Schnicke, 1992), routinely target such symptoms. Decreasing their negative impact may make re-integrating into prior social contexts easier. Furthermore, these symptoms are typically discussed in psychoeducation about PTSD early in the course of therapy, and patients are routinely encouraged to share information about common reactions to trauma with friends and family. Providing this information may help loved ones better understand the patient's symptoms and thus increase their willingness to provide social support.

Individuals with PTSD also commonly report social withdrawal and feeling a lack of connectedness with others due to the trauma. Sometimes these symptoms are quite explicitly trauma-related; for example, a mugging victim may be afraid to socialize with friends at a bar at night. Conventional in vivo exposure homework assignments, wherein trauma survivors gradually approach non-dangerous reminders of the trauma that trigger fear reactions, provide a clear avenue to increase social support. For instance, an in vivo assignment might include connecting with others (e.g., when a friend or loved one is the non-dangerous reminder) or the patient might be asked to bring a trusted friend or loved one with them during early exposures before attempting them alone. When feelings of isolation are less clearly tied to the presenting trauma, therapists can flexibly incorporate social goals into exposure assignments. Encouraging a trauma survivor to spend time in avoided social activities such as organized sports or volunteer work will not only help the individual feel more positive and build self-efficacy, but it may also rebuild or create new social connections.

Disclosure—For many individuals, disclosure is an important part of the recovery process, and one that is inherently contingent on some form of social connectedness. In general, trauma disclosure appears to have a positive effect on psychological health and functioning

(Frattaroli, 2006). In their review of the disclosure literature, Sloan and Wisco (2014) outlined a number of components to disclosure that are important for recovery including depth of information that is disclosed, the context in which the information is disclosed, and the timing of the disclosure. Successful disclosure can lead to shifts in one's beliefs regarding how others will respond that may be preventing a trauma survivor from seeking social support. Referring back to our clinical vignette, Patricia's sexual assault led to a deep mistrust of others, especially her friends and authority figures who she feared would blame her. These negative beliefs about others directly impacted Patricia's resilience after the trauma by closing her off from much needed social support and assistance. A successful disclosure to one of these friends was a turning point for her as she learned that others could provide emotional support such as warmth and sympathy. This change led to Patricia being more willing to reach out to others for help and reduced the fear that others would react negatively.

Although therapists are trained to react to disclosures in a non-judgmental and supportive way, individuals in a patient's social surroundings may not know how to handle such information, especially if the person is not particularly close to the patient or if the situation is not appropriate for such a discussion. In these situations, a trauma disclosure may not be well-received and might lead to negative feedback, discouraging the trauma survivor's confidence about disclosing in the future or affirming negative trauma-related beliefs. Disclosure can be a key goal of treatment, with the therapist role-playing appropriate times and ways to disclose one's trauma history, in addition to establishing how much detail one wishes to share and with whom. Bolstering social support can be a powerful therapeutic tool to foster resilience after trauma. Effective treatments for PTSD can target social support by providing a strong therapeutic alliance as a model of trustworthy relationships, reducing symptoms of PTSD that impact social functioning and encouraging connectedness with others and the community.

Getting Back to Life

Almost by definition, the experience of a traumatic event disrupts the lives of those involved. The profound fear, distress, and confusion that arise during and in the wake of such events can often seem to put life "on hold" as the natural stress response runs its course. Therefore, often part of recovery after a trauma involves reengaging with life's normal routines. This might mean getting back to work or school, participating in daily household chores, or even resuming normal sleeping patterns. The process of returning to routine behaviors invariably involves re-engaging with both general day-to-day tasks as well as activities that are being avoided because they are reminders of the trauma. For some, the disruptions in typical routine following a trauma don't seem to dissipate, and life is put on hold indefinitely.

Individuals with chronic PTSD know all too well what it feels like to not be able to live their lives because they are constantly avoiding reminders of the trauma and enduring chronic PTSD symptoms, such as anhedonia, lack of sleep, concentration difficulties and irritability. When asked why they are seeking treatment, patients with PTSD will often respond with some version of the phrase, "I want to get my life back." After her rape, Patricia struggled to

overcome feelings of intense fear and apprehension in a variety of contexts, resulting in a pervasive tendency to avoid. The effects of such profound avoidance acted to prolong her symptoms, and compounded her anxiety by the addition of further negative complications to her life. Avoiding classes meant failing school, receiving criticism from her parents, and feeling emotionally dejected and self-critical; avoiding work led to a loss of income, opportunities and independence. For Patricia, her behavioral avoidance and social withdrawal likely resulted from an attempt to avoid all of the negative thoughts and emotions related to her trauma. These avoidance efforts had a negative impact on Patricia's social and occupational functioning, and as her opportunities decreased, feelings of inadequacy and anhedonia further impaired her ability to impose structure and routine in her life.

Avoidance behaviors are hallmark symptoms of PTSD, and their impact can be pervasive and profound for individuals suffering after a trauma. Reminders of the trauma can be ubiquitous and varied, resulting in a multitude of different types of avoidance and an array of effects on the individual. Patients may consciously attempt to avoid unpleasant internal states related to the trauma by trying to push thoughts out of their head or by distracting themselves. Experiential avoidance techniques such as these have been show to relate to increased PTSD symptom severity (Marx & Sloan, 2005; Tull, Gratz, Salters & Roemer, 2004). Behavioral avoidance reflects efforts to stay away from situations, activities, people or contexts that trigger distress and/or intrusive recollections of the trauma. Although avoidance can manifest in different forms, factor analyses of symptoms suggest similarities across these types (Yufik & Simms, 2010). Notably, as evident in Patricia's story, avoidance is only one of many PTSD symptoms that can contribute to difficulties in returning to routine functioning. These include motivational factors linked to symptoms of anhedonia (e.g., Kashdan, Elhai & Frueh, 2006) and negative beliefs bout oneself, the world and one's future, in addition to the complicating effects of trauma-related impacts to sleep, arousal, affective instability and any functional changes tied to the trauma (e.g., ongoing injury or rehabilitation).

Therapeutic Processes that Promote a Return to Normal Routine

Psychotherapeutic treatments for PTSD offer a variety of ways to promote a return to routine in general, with many of the evidence-based treatments also specifically targeting a reduction in avoidance behaviors. Clinically, many patients report that, after extended periods of isolation, avoidance and lack of motivation – especially if complicated by unemployment and disrupted sleep - it can be difficult just to get back into a regular daily routine. Fortunately, many aspects of therapy for PTSD are designed to encourage engagement with behaviors of everyday life, in both explicit and implicit ways. For example, just as the therapeutic alliance can indirectly impact social support by providing a model of a positive relationship, attending therapy can impact engagement with life by providing a model for routine. Simply going to a weekly session may provide some level of structure during what may be a highly unstructured time, and it is not uncommon for patients with severe PTSD to report that medical and therapy appointments provide the only reason to get out of bed in the morning. Therapy can also work to maintain normal routine by countering avoidance, increasing functioning, and encouraging pleasant activities.

Countering Avoidance—Empirically-supported psychotherapies for PTSD often require patients to revisit the trauma in some fashion, through direct exposure to the memory or exposure to reminders of the trauma. The process of revisiting the memory and trauma reminders is thought to be critical to reducing avoidance, which often acts as a barrier to gaining a sense of normalcy, structure, and daily routine. For example, Patricia had been avoidant of meeting new people, especially men, due to her impairing lack of trust. She and her therapist worked to create a hierarchy of situations that provoked fear but were objectively safe. Completing these exercises every week between sessions, Patricia slowly gained perspective about safe and unsafe situations, saw her fear diminish, and developed a sense of confidence in her ability to cope with such fear. This allowed her to engage in activities she felt were normal for others but impossible for her such as dating. From a clinical perspective, avoidance can be particularly insidious because patients may lack insight into the ways they are avoiding, in contrast to other more obviously distressing or impairing symptoms. Furthermore, patients may be resistant to modify avoidant behaviors and practices that they have come to rely on as ways of coping with distressing experiences. It is not uncommon to encounter patients who view their very elaborate methods of avoiding objectively safe but fear-provoking situations as markers of successfully managing their PTSD. Helping patients to recognize avoidance, and how to overcome it, is another important way that therapists can help to jumpstart resilient coping.

Reducing Impairment—Key aspects of functional impairment (e.g., unemployment or access to transportation) can also be incorporated as high priority targets for treatment. These functional impairment targets have the potential to promote other resilient behaviors, such as improving social connectedness and support. Unemployment is a common difficulty for individuals with PTSD, with one study reporting a 50% increase in odds of unemployment among Veterans with PTSD versus those with no psychiatric illness (Savoca & Rosenheck, 2000). In Patricia's case, seeking employment, volunteering, or even starting school could be directly incorporated as targets for treatment. For example, the therapist could work with her to take the steps necessary to apply for jobs (e.g., update a résumé, search for open positions) as in vivo homework and help her prepare for interviews.

Pleasant Event Scheduling—Therapists can also work with clients to incorporate pleasant activities into their daily routine. Pleasant event scheduling is a common component of treatments for depression, aimed at promoting contact with positive, reinforcing experiences (e.g., Dimidjian, Barrera, Martell, Munoz & Lewinsohn, 2011). Although PTSD treatments focus primarily on helping the patient approach trauma reminders, for individuals with symptoms of anhedonia or comorbid depression, positive event scheduling can also play an important role in promoting resilience. Notably, recent research suggests that behavioral activation can be easily and effectively incorporated into conventional exposure-based treatments for PTSD (Gros et al., 2012). Activities for behavioral activation might include going on walks, playing with a pet, or watching a favorite show; depending on the individual, such tasks may be additions to, or simply elements of, planned in vivo assignments. These simple interventions can provide a substantial boost to an individual's mood and self-esteem as he or she learns that life can be pleasant even after the experience of a trauma, counteracting the effects of anhedonia or

prolonged negative emotional states. While behavioral activation is a useful tool for targeting such symptoms, therapists may encounter challenges initiating these exercises, as patients often struggle to implement these tasks. As such, scheduling of these activities should gradually move from easy to more challenging. Patricia's anhedonia and social isolation were targeted in part by promoting behavioral activation, with many of her in vivo assignments designed to impact multiple therapeutic goals simultaneously. For instance, an exposure assignment to play volleyball at the campus gym was useful in addressing fears of being in a social context, while at the same time re-engaging her in a pastime that she had enjoyed prior to her rape.

Meaning Making

Making sense of a traumatic experience is a primary goal of any trauma-focused talk therapy. This process has been termed "meaning making" and involves incorporating a traumatic event into one's broader belief system. In a conceptual model of meaning making after a stressful event, Park (2010) describes a process by which individuals appraise traumatic situations and assign meaning to them (e.g., "I hurt others in a car crash. I am to blame"). These meanings often conflict with their overall belief system which includes general beliefs about the self (e.g., "I'm a careful person") and the world (e.g., "Bad things don't happen to good people"). This model proposes that the discrepancy between the appraisal of the stressor and an individual's global belief system causes distress, which leads to a process of meaning making that seeks to bring the discrepant beliefs in line with each other. This framework parallels cognitive and information processing models of PTSD (e.g., Ehlers & Clark, 2000; Foa, Huppert, & Cahill, 2006) that emphasize negative appraisals, and are central to theories underlying cognitive behavioral treatments for PTSD. In Patricia's case, her initial attempt to make sense out of her assault resulted in the belief that she was to blame because she was dating the assailant and invited him into her apartment. This led to a great deal of distress manifested in the form of guilt. Patricia seemed stuck on the idea that she was to blame, making it impossible to make meaning of the event. PE treatment involved discussing Patricia's trauma memory, which helped her to recognize other aspects of the assault, such as the fact that she let her assailant into the apartment to study, and her firm rejection of his initial sexual advances. Acknowledging these facts helped Patricia reappraise why the trauma occurred and confirm her global belief that consent involves a non-coerced, explicit agreement to engage in sexual contact. Examining her trauma through this new perspective greatly reduced Patricia's guilt as she could definitively state that she did not consent to the assault.

If meaning making efforts are unsuccessful, an individual's global belief system may be negatively impacted. For example, trauma survivors often hold beliefs that the world is an unsafe place, others are untrustworthy, and that they are incompetent or incapable of responding to the challenges of life (Foa, Ehlers, Clark, Tolin & Orsillo, 1999). These broad negative generalizations help to maintain symptoms of PTSD. Those who can incorporate a trauma into their belief system in a realistic and accurate way (e.g., "the world is usually safe, but sometimes it can be very dangerous") will be more likely to recover. This ability is likely to be facilitated by other resilience factors such as social support, especially in the aftermath of community-wide traumas (Marshall & Suh, 2003). Cultural factors also

influence coping processes that are associated with resilience, and may reflect specific kinds of meaning-making processes. For example, the concept of "purpose in life" has been shown to significantly predict resilience and recovery among trauma-exposed African Americans (Alim et al., 2008). The beliefs that provide the perspective through which we interpret significant events in our lives are guided and informed by our cultural background. Therefore, any clinician attempting to help someone understand a traumatic event must do so with a deference to the person's unique cultural surroundings. This may include the direct exploration in therapy of topics related to race, ethnicity, gender and culture and their impact on trauma occurrence and response.

Therapeutic Mechanisms of Meaning Making

Evidence-based treatments assist with the meaning making process in a number of direct and indirect ways. For example, CPT contains a cognitive restructuring component in which dysfunctional beliefs about a trauma are identified and challenged. PE on the other hand, has no direct cognitive restructuring component, instead relying more heavily on exposure techniques and within-session processing to promote belief change. Both of these approaches effective at reducing symptoms of PTSD (Resick, Nishith, Weaver, Astin & Feuer, 2002), and cognitive change predicts PTSD symptom improvements in both (Kleim et al., 2013; Zalta et al., 2014). These findings suggest that simply revisiting the trauma memory can modify patients' views of the trauma, the self, and the world in general. While modifying these beliefs is not directly synonymous with meaning making, we can infer that patients' endorsement of less negative and self-critical attitudes is likely to parallel a process of making sense of their traumatic experience(s). In Patricia's case, this process involved incorporating new information about her traumatic experience into her existing belief system. A major struggle for her was rectifying her view of rape as an act of violence committed by a stranger with the idea that she was raped by someone she had been dating, leading her to question whether she had done something to cause the attack. During her course of therapy, Patricia recognized these incongruous beliefs, and ultimately came to develop a more balanced view about rape as something that can occur in a variety of contexts, and that it is the fault of the rapist, not the victim.

Avoidance and beliefs—The effect of therapy on cognitive change may be driven in part by a reduction in avoidance strategies. Cognitive and behavioral avoidance have been shown to predict PTSD symptoms as well as family and social functioning (Tiet et al., 2006). Avoidance is theorized to prevent the development of accurate and functional appraisals of the traumatic event, thereby maintaining symptoms of PTSD (e.g., Ehlers & Clark, 2000). Exposure therapy requires that individuals disengage from avoidance as they directly confront their trauma memory. This provides new information about the memory, that allows for shifts in both global and trauma related beliefs. For therapist looking to harness the meaning-making process, it may be helpful to point out these shifts in cognitions when processing exposure to the traumatic memory or reactions to another trauma reminder. If there is a noticeable shift in terms of self-blame, or a change in one's perspective on the traumatic experience, a therapist could utilize the Socratic Method as applied to psychotherapy (Overholser, 2010) to help synthesize the client's belief system through a process of inquiry and dialogue regarding those beliefs.

Patricia's case demonstrates how making meaning of a traumatic event can positively impact one's global beliefs. After treatment, Patricia went on to join an advocacy group to prevent assault on college campuses. Before her rape, Patricia did not see herself as being able to influence and help others because she had never had the experience. After her trauma, this belief persisted and became dysfunctional as she started to believe that she actually caused problems for others, especially her parents who were disappointed in her for dropping out of school. Through therapy, Patricia recognized that she had the agency to make changes in her life for the better, empowering her to help others. While such a positive shift in beliefs is not necessary for recovery, this example demonstrates how making sense of a traumatic memory encourages more resilient beliefs, and can even lead to positive shifts in one's sense of self.

The central role of meaning making—The process of shifting beliefs regarding a trauma is central to treatment for PTSD, and in many ways is central to the effect of the resilience processes we have outlined thus far. Exposure exercises, designed to increase social engagement, encourage daily structure, and decrease avoidance provide positive learning opportunities that help to challenge negative cognitions. For example, when Patricia received a positive response after her disclosure of the rape to her friend, she was able to see her self-blame was not accurate. Without talking to her friends shortly after the trauma, this negative appraisal potentially altered her views about her worth as a person. Also, through imaginal exposure and processing of her trauma memory, Patricia developed a stronger belief that the assailant was directly to blame for the trauma. This allowed her to start to trust men again and develop romantic relationships. Finally, revisiting the memory impacted Patricia's confidence as she learned that she could tolerate the distress of the memory and that others would not judge her negatively for what happened. In other words, resilience processes may lead to more global benefits by allowing trauma survivors to make more meaningful changes to their belief systems. Treatment for PTSD harnesses the power of meaning making directly through exposure to the memory and discussion of negative thoughts, but also indirectly through encouraging changes in the patient's social surroundings. Therapists working with trauma survivors can utilize an understanding of resilience processes in addition to therapeutic techniques in order to enhance meaning making efforts.

Conclusion

As we have described, resilience following trauma is the rule, not the exception; it is a process that so often unfolds naturally, yet can also quite readily become stifled or stopped altogether. We contend that resilience is more than just the absence of PTSD symptoms or the experience of post-traumatic growth; rather, it reflects an ability to bounce back from the impact of traumatic experience and return to functioning.

Therapists working with trauma survivors like Patricia can harness what we know about natural recovery to foster resilience in their patients. In this article, we described three factors that facilitate natural and therapeutic recovery following trauma: social support, getting back to life, and making meaning of the traumatic event. Clinicians can relatively easily target these factors using well-established trauma-focused treatments. In fact, we

contend that many of the key elements of such treatments offer direct or indirect ways to impact these processes and, in turn, bolster resilient coping. Conceptualizing patients' difficulties in terms of these core resilience processes may help providers to recognize key areas on which to focus interventions. For instance, therapists can encourage patients to seek out close social ties that will provide more opportunities for disclosure, resources to cope with symptoms, and positive experiences in general. Also, therapists can help patients "get back to life" by incorporating homework assignments targeting increases in enjoyable activities, daily tasks, and decreases in functional impairment (e.g., lack of work). Finally, therapists can support healthy meaning making by discussing the trauma, reducing avoidance, supporting engagement with social surroundings, and explicitly discussing negative beliefs about the self and the world in general.

Further research is needed on the mechanisms of resilient reactions to trauma, by seeking to translate recognized markers of natural resiliency into clinical tasks or metrics. Evidence-based treatment protocols would be enhanced by the addition of strategies that enrich a person's social life and synthesize their belief systems in addition to reducing their pathology. A key first step to this process is the development of instruments that can be used to operationalize constructs of resilience. For example, it is necessary to identify the specific elements of meaning making beyond simple belief change in order to target these processes in therapy. As resilience research develops, clinicians working with trauma survivors can utilize the resilience perspective to inform treatment decisions. Taking stock of a client's resources and potential pathways to resilience early in treatment may help clinicians to incorporate a focus on these processes throughout the course of therapy. As we hope readers will conclude from this review, we regard the resilience framework as a tool that clinicians may use to strive for superior outcomes, and one that is highly compatible with (if not inherent to) empirically-supported treatment protocols.

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