# *Psychological resilience for climate change transformation: relational, differentiated and situated perspectives*

Article

It is advisable to refer to the publisher's version if you intend to cite from the work.  See Guidance on citing.

To link to this article DOI: http://dx.doi.org/10.1016/j.cosust.2021.06.011

Publisher: Elsevier

# www.reading.ac.uk/centaur

**CentAUR**

Central Archive at the University of Reading

Reading's research outputs online

# Psychological resilience for climate change transformation: Relational, differentiated and situated perspectives

Helen Adams[a*], Sophie Blackburn[b], Nadia Mantovani[c]

a. Department of Geography, King's College London, 30 Aldwych, London, WC2B 4BG
b. Department of Social Sciences, Oxford Brookes University, Gipsy Lane, Oxford, OX3 0BP
c. Population Health Research Institute, St George's, University of London, Cranmer Terrace, London, SW17 0RE

*Corresponding author: helen.j.adams@kcl.ac.uk

## Highlights

- Psychological and sociological perspectives on mental health responses to violence and trauma provide novel insights into individual transformation for climate change
- The ability of an individual to transform their thought patterns and behaviours in the context of climate change is likely to be differentiated, because it is layered on existing histories that influence current day resilience
- Individuals cannot transform by themselves, rather the ability to transform is relational and dependent on external resources
- Being resilient is stressful and for individuals with the most serious histories of trauma becoming resilient may, itself, be transformational
- Arguments framed around gender have wider implications for understanding resilience

## Abstract

Responding to climate change requires radical transformations in social, political, economic and social-ecological systems. Recent research has argued that individuals can drive transformations at scale through changes in beliefs and values that affect political action. We draw from sociological and psychological perspectives on mental health outcomes among survivors of violence and abuse, taking a gendered approach, to show how potential for individual transformation is differentially constructed through personal life trajectories and intersectional social relations. We also argue that being resilient and transforming is stressful and involves significant personal costs. In integrating this psychological perspective, we suggest a more equitable way to define the individual's role in, and their responsibility for, sustainable societal-scale shifts for climate change.

## 1. Introduction

Transformational responses to climate change are those that challenge the underlying political and economic structures to produce systems with radically different characteristics, rather than working within business as usual. While the objective is clear, there is still very little literature on the *how* of transformation. This paper draws on psychological understandings of resilience, utilising findings from those working with survivors of violence and trauma, to further understanding on how to encourage and support the difficult psychological work that will be involved in driving transformational responses to climate change. Here we address both transformational adaptation that address the root causes of

vulnerability (e.g. Pelling, 2011), and transformations within the political economy for emission reductions to meet the 1.5 degree target of the Paris Agreement (e.g. O'Brien, 2018; Leichenko & O'Brien 2019).

The role of subjective factors such as world views and ideologies, and personal reflection in driving that change, is particularly understudied (O'Brien, 2021). There is a growing body of work that invokes *conscientização* (Conscientisation; Freire 1970) as a lens on the need for individuals to first recognise, and actively resist, unsustainable societal, political, economic and other systemic norms (e.g. Blackburn 2018; O'Brien 2020). Conscientisation is critical reflexivity, and through this process people can become agents of, rather than barriers to, change (O'Brien 2018).

In this paper, we draw lessons from psychological understandings of resilience to inform the transformational adaptation agenda, particularly one which centres on the individual as an agent of change. We do so through cross-disciplinary engagement with psychological and sociological scholarship on resilience. Specifically, literature analysing the everyday contexts of domestic violence and mental health responses amongst survivors of gendered violence and trauma. To date, there is limited integration of psychological understanding of resilience in climate or sustainability scholarship, and even more limited understanding of its gendered dimensions (Jordan 2019).

Thus, our findings point to violence against women as one form of pre-existing trauma that creates an uneven baseline for transformations in the face of a changing climate. However, research on psychological resilience to stress and trauma also provides a lens through which to understand the capacity for, and enablers of, personal transformation under difficult and oppressive conditions. First, psychological understandings of resilience remind us that people are already coping with a range of stresses and individuals may already be showing resilience to past (and ongoing) traumatic events. Calls for transformation must acknowledge the variable baseline on top of which future transformations are layered. Second, psychological readings of resilience indicate that for individuals with severe histories of trauma, the process of becoming resilient could, itself, be transformational. Third, the body of research provides insight into how people under high levels of stress and trauma can transform their thought patterns and, thus, their situation.

## 1.     Background
*Resilience to climate change*
Across multiple disciplines and sectors, resilience is used to describe the ability of people, communities and whole systems to return to normal functioning after a shock. The 'systemic meta-stability' objective of resilience has made the concept a core framing for responding to the challenges of climate change (Grove & Chandler 2017; 79), and the biological roots of resilience thinking mean the concept lends itself to sustainability objectives. However, there are limits to understanding social systems according to the principles of evolutionary biology (Béné et al 2018).

Further, the broad application of resilience has been criticised due to the ambiguity it generates and its uncritically positive normative stance (Biesbroek et al 2017). The concept has legitimised the transfer of responsibility to individuals as part of a wider neoliberal

political economy (Chandler & Reid 2016) and its emphasis on recovery and 'bouncing back' is overly conservative, preoccupied with protecting the status quo rather than challenging underlying power structures (White and O'Hare 2014). However, resilience is an interdisciplinary concept that is widely articulated in other fields. The concept has particularly strong traction in psychology, describing an individual's ability to maintain normal psychological and emotional functioning during and after traumatic events (Bonanno 2004; Nath and Pradhan 2012; Bourbeau 2018).

*Transformation for climate change*
Transformational adaptation is a progressive alternative to resilience within climate change adaptation, focusing on structural change and challenging power dynamics that reproduce exposure and vulnerabilities to climate risks (Mustafa 2003; Kates 2012; Fazey et al 2018). It sits at the opposite end of the spectrum from forms of adaptation that involve resisting, coping with, and accommodation to, change and stress (Bene & Doyen 2018). O'Brien (2018) mapped out three interrelated loci for transformation to meet the 1.5 degree Paris goal: practical action that involves changing behaviours and technical responses, political action to address structures and systems that prevent that change, and personal action that shifts world views and ideologies to change how people view systems and structures. In the context of psychology, transformation represents the ability of individuals to change how they see themselves in relation to their environment, and use the resources (people, networks and services) around them to leave their situation.

However, the concept of transformation is not without its challenges. Questions remain on how to define 'systemic change' at an everyday scale and issues surround who decides on the type of transformation that is desirable (O'Brien 2012, Blackburn 2018). Further, transformation loses traction (and is vulnerable to co-option) if it calls for aspirational objectives without mapping meaningful pathways to their achievement (Blythe et al 2018).

*Violence against women*
Whilst men are also victims of inter-personal violence (e.g. Dutton, 2012), women are more likely to experience repeated and severe forms of abuse including, but not limited to, sexual violence. Women experience higher rates of repeated victimisation and are much more likely to be seriously hurt (Walby & Towers 2017; Walby & Allen 2004), or killed, than male victims of domestic abuse (ONS, 2019). Further, women are more likely to experience higher levels of fear and are more likely to be subjected to coercive and controlling behaviours (Dobash & Dobash 2004; Hester 2013; Myhill, 2017).

Violence against women, including sexual violence, occurs in contexts where unequal gender norms, racism, social class inequalities, and discrimination based on sexuality, negatively influence the social conditions in which people live (Moletsane & Theron 2017). Globally, social norms supporting violence as a means of conflict resolution, and the unequal relational and societal position of women, are associated with violence against women and girls (e.g. Le Masson et al 2019). Further, discrimination based on women's perceived status in society may undermine abused women's resilience by negatively impacting on their willingness to disclose violence experiences and seek help (Yoshioka et al 2003; Morchain et al 2015; Opondo et al 2016).

*Gendered psychological resilience and climate change*
Violence against women is an everyday risk and chronic stress that will be worsened by the impacts of climate change (e.g. Schumacher et al 2010). The negative impacts of climate change disproportionately affect women due to social hierarchies and pre-existing vulnerability (Arora-Jonsson 2011), and disasters and slow-onset climate events have been associated with increased rates of domestic violence (Stork et al 2015). Violence against women can result from situations where men rely on negative coping mechanisms, such as alcoholism, when unable to meet social norms of providing for the household and when experiencing feelings of helplessness and lack of control (First et al 2017). Psycho-social support has become a key dimension of disaster and humanitarian response; acknowledging that without individual resilience, initiatives to rebuild communities and livelihoods cannot be sustainable (Murphy et al 2018).

Yet, Jordan (2019) demonstrates that resilience is inadequate for understanding gendered responses to climate stress in Bangladesh, highlighting the inability of the concept to incorporate intersecting identities and power relations. Thus, there are pressing reasons to look at climate change transformation from the perspective of the particular experience, and strengths, of women. A feminist lens has previously highlighted the roots of structural inequalities and shown that effective transformation should consider intersecting and gendered vulnerabilities (Tschakert et al 2013; Resurrección et al 2019). The relational, differentiated and situated understanding of resilience that emerges from a gendered analysis also has wider relevance to understanding how other forms of social difference and marginalisation, such as race and class, affect resilience.

## 2.    Psychological readings of resilience

*Resilience is shaped by personal history*
Childhood experience of abuse has a profound, cumulative impact on lifetime health and development (Capaldi et al 2012; Strine et al 2012; Young et al 2020) and is a leading risk factor for women's revictimization later in their lives (Walker et al 2017). Foundational experiences are key to understanding resilient outcomes in survivors as assets and resources gained, and risks faced earlier in life, impact the individual's capacity to negotiate and manage stressors (Bowes & Jaffee, 2013; Masten & Cicchetti 2012). This, in part, may explain the unequal distribution of transformative potential among survivors of violence and abuse.

Further, research shows that violence, abuse and impaired mental health interact in a vicious cycle whereby violence and abuse lead to negative psychological outcomes that, in turn, place women at greater risk of victimisation (Oram et al 2016) which is likely to negatively impact on their resilience. Similarly, previous experiences of violence and abuse significantly increase the likelihood of women entering a future violent relationship (Carbone-Lopez et al 2012; Neustifter & Powell, 2015), with exposure to violence and abuse from multiple partners escalating the risk for adverse mental and physical health consequences (Classen et al 2005), hence impacting on women's resilient outcomes (e.g. functioning).

*Resilience as an affective personal experience: resilience as stress*
When people encounter traumatic situations, a number of adverse psychological effects are frequently experienced such as anxiety, depression, acute stress reactions and post-traumatic

stress disorder. For some these emotional responses are evident for many years, whilst for others they dissipate relatively quickly, indicating resilience (Norris, Tracey & Galea et al 2009). The absence of psychopathology after traumatic exposure indicates resilience (Galatzer-Levy et al 2018; Yoshioka et al 2003). However, appearing outwardly to cope is not a reliable indicator of resilience as, for example, high stress and high social competence among young people are correlated with high rates of depression (Luthar et al 1993).

Psychological resilience is, therefore, better defined good mental health following adaption to trauma or other adversity rather than coping itself. Some individuals following trauma they may experience what is known as post traumatic growth (Tedeschi & Calhoun 2004; Larner & Blow 2011), where they end up 'better' than prior to the trauma. Thus, it is important to identify factors that foster resilience without emotional distress. Psychology has identified factors that maintain emotional distress. For example, a tendency to engage in repetitive negative thinking such as worry about the future or mulling over negative aspects of the past (Samtani & Moulds 2017). Repetitive negative thinking, in turn, is maintained by, among other things, a tendency to interpret ambiguous information in more negative or threatening way, rather than in benign (neutral/positive) ways (Krahé et al 2019). Given this, lower levels of repetitive thinking and more benign interpretations may also foster resilience.

*Resilience is relational*
Literature interrogating the resilience of women affected by violence demonstrates that resilience is constructed not only by individuals, but by the characteristics of their environment and their relationships. Here, psychological resilience is a dynamic process resulting from individuals having the competence and self-efficacy to interact with their environments to promote mental wellbeing or protect themselves against the influence of adverse risk factors. This creates a virtuous cycle, whereby the support gained allows individuals to increase their competences, which in turn allows them to interact more effectively with the wider context (Liebenberg & Joubert 2019; Supkoff et al 2012). Data from women in shelters identified that abused women need both individual agency and external resources (e.g. advocacy services, or safe heavens) to sustain them during and after their decision to leave their abusive relationships (Gopal & Nunlall 2017; Sanders & Munford 2016; Sanders et al 2012).

External resources can enable victims to not fall back into the cycle of abuse, lower the risk of re-victimisation and assist in the recovery process (Smallbone et al 2013); in contrast, lacking family, social and community support may explain why some women stay in abusive relationships (Hyland 2014) and fall victim of cycle of abuse and re-victimisation (Smallbone et al 2013). The turning point in the lives of women who have experienced violence, the moment they move from being a victim to a survivor - depends on the support and resources, the women have accessible to them (Duma 2016) and on social context that allows communities to be more or less supportive (Machisa et al 2018). Hence, transformative resilience can only be understood in the context of the ability to access, navigate and negotiate support and resources (Ungar 2015; Moletsane &Theron, 2017).

## 4.     Implications for transformation
This review has three implications for climate change transformations research. Firstly, it suggests that individuals' capacity to transform in the face of a changing climate is neither

inherent, nor even, but differentiated. Rather, histories of trauma add a pre-existing burden to some individuals more than others, meaning the capacity for climate resilience or transformation is unevenly distributed. Second, psychological perspectives show that the state of 'being resilient' should not be understood as a comfortable one. Rather, being resilient requires being able to accommodate and live with stress. Third, the review extends the growing emphasis in climate change research on individual transformations, by emphasising the impossibility of individual transformations in a vacuum of social support.

Here we discuss the implications of these findings for two areas of sustainability research: transformational adaptation that addresses the root causes of vulnerability and transformational mitigation that addresses emissions reduction at the structural level.

*Transformational adaptation*

Disasters and adaptation research has clearly demonstrated that the 'resilient' individual cannot be separated from their social, historical, cultural and spatial context (e.g. Taylor and Peace 2015, Hoffman and Oliver-Smith 2002, Paton et al 2010). This includes significant literature on gender, disasters, climate change and vulnerability, showing how vulnerability is differentiated by the intersection of class, household dynamics, and pre-existing roles and responsibility (Odiase et al, 2020; Jordan, 2019).

Existing climate adaptation research has, however, paid less attention to how past experience generates different psychological outcomes. This is crucial to understanding current day resilience, as negative experiences in the past can undermine well-being throughout a person's life, their ability to respond to current stresses and trauma, and the capacity to envision alternatives for themselves (Rutter, 2012). Therefore, for individuals who have experienced severe trauma in their past, developing psychological or emotional resilience may itself be a transformative process. In such cases, resilience and transformation may not be opposite ends of a continuum, as is often suggested in adaptation research, at the scale of the individual. Further, the costs of being resilient on emotional wellbeing, as highlighted in section 3 on *resilience as stress*, may mean that, at times, breaking down - not being resilient - becomes the necessary, and ultimately more transformative, response.

Critics of resilience argue that the concept places excessive responsibility on the individual, (Chandler & Reid 2016). The influence of support networks gives resilience an intrinsically dynamic quality – just as a person's web of social relations is constantly shifting, so is their state of resilience. Hence, a person's resilience is not an internal, intrinsic quality but an external, socially contingent one. Not recognising the importance of the social context when determining what outcomes are defined as resilient (Ungar 2003) may reinforce the idea that resilient people are somehow intrinsically remarkable and extraordinary (Masten, 2001: 227; Mantovani et al 2020).

*Transformational mitigation*

Literature on psychological resilience provides a new way of understanding personal transformations and reflective learning for sustainability. Psychological resilience, through the support of networks, allows women to transform their situation. Sustainability research has placed growing emphasis on conscientization of the individual in driving wider societal shifts. This includes personal changes in attitudes, ideology and beliefs that creates a social consciousness ready for the changes required to mitigate or adapt to climate change (O'Brien

2018). Pelling et al. (2015) include 'the individual' and 'behaviour' among their seven activity spaces framework (drawing on Harvey (2010)). As O'Brien observes, "the relationship between consciousness and individual and collective transformative action has been largely ignored" (2012; 672). However, there is a danger here of reproducing the individual responsibilisation we have seen already with resilience.

The literature highlighted in the preceding section shows that people can not only be resilient against trauma (abuse and trauma), but also on their situation and change those situations despite constraints (leave abusive situations). However, networks are crucial, emphasizing relational contexts. Individual transformations as fundamentally co-produced by, and with, systemic change. Thus, it is essential that calls for individual transformations do not distract from calls for wider systemic change, and that individual and systemic transformations are conceptualised as co-evolving, rather than discrete. Any calls for individual transformation 'in the self' must be contextualised within the broader historical, social, cultural, and importantly, psychological context. This includes the need to transform the social conditions, characterised by unequal gender norms, that make it possible for violence against women to occur.

## 5.    Conclusion

This paper draws on psychological readings of resilience to extend climate change and sustainability scholarship. Climate change will lead to increased anxiety and stress as individuals are forced to cope with increasingly pervasive climate impacts; these stresses will interact and magnify existing and historical trauma. Existing trauma and anxiety may also limit the ability of people to engage with processes of conscientization to reimagine their role in society and alternative climate change futures, limiting the potential of individual as a sphere of transformation. Thus, the ability to engage with different thought patterns and mental models will be differentiated by psychological well-being, and transformation may place excessive burden on some. However, psychological and sociological research on women living with, and processing, trauma also highlights ways in which we might support individual transformations. This review of psychology research on resilience, in the context of violence against women, shows the crucial role of relationships and community resources in building competencies that enable people to change their situation, and sustain that change. Finally, research shows us that emotional resilience, for example, can be transformative in those who have previously not been able to cope. Conversely, emotional responses such as anxiety or acute stress responses, can form part of a resilient response to change. Thus, the analysis deepens understanding of the personal costs and complexity of transformation at the individual scale, extending scholarship on individual-scale transformations.

## 6.    Acknowledgements

**References**

Arora-Jonsson, S. (2011). Virtue and vulnerability: Discourses on women, gender and climate change. *Global environmental change 21*(2), 744-751.

Béné, C., & Doyen, L. (2018). From resistance to transformation: a generic metric of resilience through viability. *Earth's Future*, *6*(7), 979-996.

Béné, C., Mehta, L., McGranahan, G., Cannon, T., Gupte, J., & Tanner, T. (2018). Resilience as a policy narrative: Potentials and limits in the context of urban planning. *Climate and Development*, *10*(2), 116-133.** Provides important critiques of resilience and how its application in policy processes can maintain the status quo.

Biesbroek, R., Dupuis, J., & Wellstead, A. (2017). Explaining through causal mechanisms: resilience and governance of social–ecological systems. *Current Opinion in Environmental Sustainability*, *28*, 64-70.

Blackburn, S. (2018). What does transformation look like? Post-disaster politics and the case for progressive rehabilitation", *Sustainability* 10(7), 2317. **This paper empirical investigates the potential for transformation in post-tsunami recovery in the Andaman islands, revealing the difficulties of deliberately implementing transformations.

Blythe, J., Silver, J., Evans, L., Armitage, D., Bennett, N. J. et al (2018). The dark side of transformation: Latent risks in contemporary sustainability discourse. *Antipode*, *50*(5), 1206-1223.

Bonanno, G. A. (2004) Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive After Extremely Aversive Events? *American Psychologist 59*, 603 20–28.

Bourbeau, P. (2018). A Genealogy of Resilience. *International Political Sociology 12*(1): 19–35.

Bowes, L., & Jaffee, S.R. (2013). Biology, genes, and resilience: toward a multidisciplinary approach. *Trauma Violence Abuse 14*(3),195-208.

Capaldi, D.M., Knoble, N.B., Wu Shortt, J. & Kim, H.K. (2012). A Systematic Review of Risk Factors for Intimate Partner Violence. *Partner Abuse 3*(2), 231–280.

Carbone-Lopez, K., Rennison, C. M., & Macmillan, R. (2012). The transcendence of violence across relationships: New methods for understanding men's and women's experiences of intimate partner violence across the life course. *Journal of quantitative criminology* 28(2), 319-346.

Chandler, D., & Reid, J. (2016). *The neoliberal subject: Resilience, adaptation and vulnerability*. New York: Rowman & Littlefield International.

Classen, C.C., Palesh, O.G. & Aggarwal, R. (2005). Sexual Revictimization: A Review of the Empirical. *Trauma, Violence and Abuse 6* (2),103-129.

Dobash, R.P. & Dobash, R.E. (2004). 'Women's violence to men in intimate relationships. Working on a Puzzle', *British Journal of Criminolog*y 44(3), 324–349

Duma S.E. (2016). *The Pain of Being a Woman: An Indepth Research on Recovery from Sexual Assault Trauma*, Durban: Mepho Publishers.

Dutton, D.G. (2012). The case against the role of gender in intimate partner violence. *Aggression and Violent Behavior* 17(1), 99–104.

Fazey, I., Schäpke, N., Caniglia, G., Patterson, J., Hultman, J., van Mierlo, B.,& Wyborn, C. (2018). Ten essentials for action-oriented and second order energy transitions, transformations and climate change research. *Journal of Energy Research and Social Science 40*, 54–70.

First, J. M., First, N.L., & Houston, J.B. (2017). Intimate partner violence and disasters: A framework for empowering women experiencing violence in disaster settings. *Affilia 32*(3), 390-403.

Freire, P. (1970). *Pedagogy of the oppressed*. 30th Anniversary Edition. Translated by Myra Bergman Ramos. New York: The Continuum International Publishing 200. **Classic text introducing the concept of conscientization.

Galatzer-Levy, I. R., Huang, S. H., & Bonanno, G. A. (2018). Trajectories of resilience and dysfunction following potential trauma: A review and statistical evaluation*. Clinical psychology review, 63*, 41-55.

Gopal, N. & Nunlall, R. (2017). Interrogating the resilience of women affected by violence. *Agenda* 31(2), 63-73. ** This paper provides a qualitative account of how women in abusive relationships use resources in their environment to leave, and stay away from those situations, highlighting the relational nature of resilience.

Harvey D (2010) The enigma of capital: and the crisis of capitalism. Profile Books, London

Hester, M. (2013). 'Who Does What to Whom? Gender and Domestic Violence Perpetrators in English Police Records', *European Journal of Criminology* 10, 623- 637.

Hoffman, S. and Oliver-Smith, A. (2002). *Catastrophe and Culture: The Anthropology of Disaster*. School of American Research Press: Santa Fe, USA.

Hyland, D.L. (2014). '*Constructing safer lives: women who display resilience in responding to intimate partner violence (IPV)*', The College at Brockport, Counsellor Education Master's Theses. 171. http://digitalcommons.brockport.edu/edc_theses/171

Jordan, J. C. (2019). Deconstructing resilience: why gender and power matter in responding to climate stress in Bangladesh. *Climate and Development* 11(2), 167-179. .**This reference is crucial in showing that resilience as a framework in sustainability studies is unable to

account for intersecting vulnerabilities associated with gender in low income settings, and the need for more embodied approach to resilience.

Kates, R., Travis, W., & Wilbanks, T. (2012) Transformational adaptation when incremental adaptations to climate change are insufficient, *PNAS 109*(19), 7156-7161

Krahé, C., Whyte, J., Bridge, L., Loizou, S., & Hirsch, C. R. (2019). Are different forms of repetitive negative thinking associated with interpretation bias in generalized anxiety disorder and depression?. *Clinical Psychological Science 7*(5), 969-981. .**This paper provides important context on the experience of stress and anxiety. It shows that being worried and ruminating are associated with interpreting neutral life events in a negative way, leading to further negative emotions.

Larner, B. & Blow, A. (2011). A model of meaning-making coping and growth in combat veterans. *Review of General Psychology 15*, 187–197.

Leichenko, R., & O'Brien, K. (2019). *Climate and society: transforming the future*. Cambridge: Polity Press.

Le Masson, V., Benoudji, C., Sotelo Reyes, S. & Bernard, G. (2010). How violence against women and girls undermines resilience to climate risks in Chad. *Disasters* 44(3), S245-S270.

Liebenberg, L., & Joubert, N. (2019). A Comprehensive Review of Core Resilience Elements and Indicators: Findings of Relevance to Children and Youth. *International Journal of Child and Adolescent Resilience* 6(1), 8-18.

Luthar, S. S., Doernberger, C. H. & Zigler, E. (1993). Resilience is not a unidimensional construct: Insights from a prospective study of inner-city adolescents. *Development and Psychopathology 5*(4): 703–717.

Machisa ,M.T., Christofides, N. & Jewkes, R.(2018) Social support factors associated with psychological resilience among women survivors of intimate partner violence in Gauteng, South Africa. *Global Health Action* 11 (sup3), 1491114.

Mantovani, N., Gillard, S., Mezey, G., & Robinson, F. (2020). Children and Young People "In Care" Participating in a Peer-Mentoring Relationship: An Exploration of Resilience. *Journal of Research on Adolescence 30*(2) 380-390*.*

Masten, A.S. & Cicchetti, D. (2012). Risk and resilience in development and psychopathology: The legacy of Norman Garmezy. *Development and Psychopathology* 24(2), 333-334.

Masten, A.S. (2001). Ordinary magic: resilience processes in development. *American Psychologist*, *56*(3), 227-238.

Moletsane, R. & Theron, L. (2017). Transforming Social Ecologies to Enable Resilience Among Girls and Young Women in the Context of Sexual Violence, *Agenda 31*(2), 3-9.

Morchain, D., Prati, G. Kelsey, F. & Ravon, L. (2015). 'What if gender became an essential, standard element of vulnerability assessments?' *Gender and Development* 23(3), 481–496.

Murphy, R., Pelling, M., Adams, H., Di Vicenz, S., & Visman, E. (2018). Survivor-led response: local recommendations to operationalise building back better. *International Journal of Disaster Risk Reduction 31*, 135-142.

Mustafa, D. (2003). Reinforcing vulnerability? Disaster relief, recovery, and response to the 2001 flood in Rawalpindi, Pakistan. *Global Environmental Change Part B: Environmental Hazards 5*(2), 71-82.

Myhill, A. (2017). Measuring domestic violence: Context is everything. *Journal of Gender-Based Violence 1*(1), 33-44.

Nath, P., & Pradhan, R. K. (2012). Influence of positive affect on physical health and psychological well-being: Examining the mediating role of psychological resilience. *Journal of Health Management 14*(2), 161-174.

Neustifter, R. & Powell, L. (2015). Intimate Partner Violence Survivors: Exploring Relational Resilience to Long-Term Psychosocial Consequences of Abuse by Previous Partners. *Journal of Family Psychotherapy 26*(4), 269-285.

Norris, F.H., Tracy, M., & Galea, S. (2009). Looking for resilience: Understanding the longitudinal trajectories of responses to stress. *Social Science & Medicine 68*(12), 2190-2198.**Using examples of people affected by extreme weather and terrorist attacks, this paper explores the features of psychological resilience (adaptability rather than stability) and how it evolves after time for different people after a traumatic event.

O'Brien, K. (2021). Reflecting on the Anthropocene: The Call for Deeper Transformations. *Ambio,* 1: 1–5.

O'Brien, Karen. (2020). *You Matter More Than You Think: Quantum Social Change in Response to a World in Crisis*. AdaptationCONNECTS, University of Oslo, Norway [available on line https://www.youmattermorethanyouthink.com/]

O'Brien, K. (2018). Is the 1.5 C target possible? Exploring the three spheres of transformation. *Current Opinion in Environmental Sustainability* 31, 153-160. .**This is a key reference for that shows how changes in people's "subjective beliefs, values, worldviews and paradigms" (p.155) intersects with behaviours and technical responses to meet climate targets.

O'Brien, K. (2012). Global environmental change II: from adaptation to deliberate transformation. *Progress in Human Geography* 36(5), 667-676.

Odiase, O., Wilkinson, S., & Neef, A. (2020). Risk of a disaster: Risk knowledge, interpretation and resilience. *Jàmbá: Journal of Disaster Risk Studies* 12(1), 845.

Office for National Statistics (ONS) (2019). *Domestic abuse in England and Wales: year ending March 2019.* Published online: ONS.

Opondo, M., U. Abdi, and P. Nangiro (2016). 'Assessing gender in resilience programming: Uganda'. BRACED Resilience Intel. 2(2). UKaid.

Oram, S., Khalifeh, H., & Howard, L.M. (2016). Violence against women and mental health. *Lancet Psychiatry* 4(2), 159-170. .**This paper shows how violent abuse leads to mental health issues; this paper provides important context for the focus of this review; women's psychological responses to abuse.

Paton, D. Sagala, S., Okada, N., Jang, L., Bürgelt, P. & Gregg, C. (2010). Making sense of natural hazard mitigation: personal, social and cultural influences. *Environmental Hazards* 9, 183-196

Pelling, M., O'Brien, K. & Matyas, D. (2015) Adaptation and transformation. *Climatic Change* 133, 113–127.

Pelling, M. (2011) *Adaptation to Climate Change: From Resilience to Transformation*. New York: Routledge, Taylor & Francis. .**Key reference on the ways in which adaptation and resilience are insufficient as objectives for climate change action, and the need for transformational approaches.

Resurrección, B.P., Bee, B.A., Dankelman, I., Park, C.M.Y, Halder, M., & McMullen, C.P. (2019). *Gender-transformative climate change adaptation: advancing social equity* Background paper to the 2019 report of the Global Commission on Adaptation. Rotterdam and Washington, DC. Available online at www.gca.org.

Rutter, M. (2012). Resilience as a dynamic concept. *Development and psychopathology*, *24*(2), 335-344.

Samtani, S., & Moulds, M.L. (2017). Assessing maladaptive repetitive thought in clinical disorders: A critical review of existing measures. *Clinical Psychology Review 53*, 14-28.

Sanders, J., & Munford, R. (2016). Fostering a sense of belonging at school—five orientations to practice that assist vulnerable youth to create a positive student identity. *School Psychology International 37*(2),155-171.

Sanders, J., Munford, R., & Liebenberg, L. (2012). Young people, their families and social supports: Understanding resilience with complexity theory. In Ungar, M. (ed) *The Social Ecology of Resilience: A Handbook of Theory and Practice*, New York: Springer. pp. 233-243.

Schumacher, J.A., Coffey, S.F., Norris, F.H., Tracy, M., Clements, K., & Galea, S. (2010). Intimate partner violence and Hurricane Katrina: predictors and associated mental health outcomes. *Violence and victims*, *25*(5), 588-603.

Smallbone, S., Marshall, W.L., & Wortley, R. (2013). *Preventing Child Sexual Abuse: Evidence, Policy and Practice*, New York: Routledge.

Stork, A., Travis, C. & Halle, S., (2015). Gender-Sensitivity in Natural Resource Management in Côte d'Ivoire and Sudan. *Peace Review 27*(2), 147-155.

Strine, T.W., Dube, S.R., Edwards, V.J., Prehn, A. W., & Rasmussen, S., et al (2012). Associations between adverse childhood experiences, psychological distress, and adult alcohol problems. *American Journal of Health Behavior 36*(3), 408–423.

Supkoff, L.M., Puig, J. & Sroufe, L.A. (2012). Situating Resilience in Developmental Context. In: Ungar (ed) *The Social Ecology of Resilience*. New York: Springer, pp. 127-142.

Taylor, H., & Peace, R. (2015). Children and cultural influences in a natural disaster: Flood response in Surakarta, Indonesia. *International Journal of Disaster Risk Reduction* 13, 76-84.

Tedeschi, R. & Calhoun, L. (2004). Posttraumatic Growth: Conceptual Foundations and Empirical Evidence, *Psychological Inquiry 15*(1), 1-18.

Tschakert, P., van Oort, B., St. Clair, A.L., & LaMadrid, A. (2013). Inequality and transformation analyses: a complementary lens for addressing vulnerability to climate change. *Climate and Development 5*(4), 340-350.

Ungar, M. (2015). Practitioner review: diagnosing childhood resilience—A systemic approach to the diagnosis of adaptation in adverse social and physical ecologies. *Journal of Child Psychology and Psychiatry 56,* 4–17.  .**This paper provides an application of the social-ecologies approach to psychology which embeds the individual in their context to understand resilience.

Ungar, M. (2003). Deep ecology and the roots of resilience: The importance of setting in outdoor experience-based programming for at-risk children. *Critical Social Work 3*(1), 18-43.

Walby, S. & Towers, J. (May 2017) 'Measuring violence to end violence: mainstreaming gender', *Journal of Gender-Based Violence*, 1(1), 11-31.

Walby, S. & Allen, J. (2004) *Domestic Violence, Sexual Assault and Stalking: Findings from the British Crime Survey.* Home Office Research Study 276. London: Home Office.

Walker, H.E., Freud, J.S., Ellis, R.A., Fraine, S.M., & Wilson, L.C. (2017) The prevalence of sexual revictimization: A meta-analytic review. *Trauma, Violence & Abuse 20*(1), 67-80.
White, I., & O'Hare, P. (2014). From rhetoric to reality: which resilience, why resilience, and whose resilience in spatial planning?. *Environment and Planning C: Government and Policy 32*(5), 934-950.

Young, L.B., Timko, C., Pulido, R.D., Tyler, K.A., Beaumont, C., & Grant, K.M. (2020). Traumatic childhood experiences and posttraumatic stress disorder among veterans in substance use disorder treatment. Journal of interpersonal violence, 0886260519900937.

Yoshioka M.R., Gilbert L, El-Bassel N., & Baig-Amin, M. (2003). Social support and disclosure of abuse: comparing South Asian, African American, and Hispanic battered women. *J Fam Violence* 18:171–180.