Clinical Psychology Review 49 (2016) 92–105

Contents lists available at ScienceDirect

Clinical Psychology Review

journal homepage: www.elsevier.com/locate/clinpsychrev

Review

Trauma and the psychosis spectrum: A review of symptom specificity and explanatory mechanisms

Lauren E. Gibson, Lauren B. Alloy, Lauren M. Ellman *

Department of Psychology, Temple University, Philadelphia, PA, USA

HIGHLIGHTS

- Trauma is strongly related to psychosis and other psychological symptom constructs.
- The specificity of the trauma and psychosis relation is unclear.
- Comparisons are made between trauma and psychosis versus other comorbid symptoms.
- Mechanisms specific to the trauma and psychosis relationship are proposed.
- Trauma likely interacts with other risk factors in generating psychosis outcomes.

ARTICLE INFO

Article history:
Received 3 March 2016
Received in revised form 17 June 2016
Accepted 30 August 2016
Available online 31 August 2016

Keywords:
Trauma
Adversity
Psychosis
Schizophrenia

ABSTRACT

Traumatic life events have been robustly associated with various psychosis outcomes, including increased risk of psychotic disorders, the prodrome of psychosis, and dimensional measures of psychotic symptoms, such as attenuated positive psychotic symptoms. However, trauma exposure has been linked to various mental disorders; therefore, the specificity of trauma exposure to psychosis remains unclear. This review focuses on two understudied areas of the trauma and psychosis literature: 1) the specificity between trauma and psychosis in relation to other disorders that often result post-trauma, and 2) proposed mechanisms that uniquely link trauma to psychosis. We begin by discussing the underlying connection between trauma exposure and the entire psychosis spectrum with a focus on the influence of trauma type and specific psychotic symptoms. We then consider how the principles of multifinality and equifinality can be useful in elucidating the trauma-psychosis relationship versus the trauma-other disorder relationship. Next, we discuss several cognitive and neurobiological mechanisms that might uniquely account for the association between trauma and psychosis, as well as the role of gender. Lastly, we review important methodological issues that complicate the research on trauma and psychosis, ending with clinical implications for the field.

Contents

1. Traumatic life events as a risk factor for psychosis: the underlying relationship . . . 93
2. Methodology . . . 93
   2.1. Definition of terms . . . 94
   2.2. Search strategy . . . 94
3. The psychosis spectrum and TLEs . . . 94
   3.1. Clinical high risk for psychosis . . . 94
   3.2. The psychosis phenotype . . . 94
4. Does TLE type matter? . . . 94
   4.1. The four commonly reported TLEs . . . 95
   4.2. Bullying . . . 96
   4.3. Non-intentional life threatening events . . . 96
   4.4. War exposure . . . 96

* Corresponding author at: The Department of Psychology, Weiss Hall, 1701 North 13th Street, Philadelphia, PA 19122-6085, USA.
E-mail address: ellman@temple.edu (L.M. Ellman).

http://dx.doi.org/10.1016/j.cpr.2016.08.003
0272-7358/

5. TLEs and specific psychotic symptom expression . . . 96
5.1. Positive symptoms . . . 96
5.2. Negative and disorganized symptoms . . . 96
6. Multifinality . . . 97
6.1. TLEs and diagnostic ambiguity . . . 97
6.2. TLEs and PTSD vs. psychotic disorders . . . 97
6.3. TLEs and mood disorders vs. psychosis . . . 97
6.4. TLEs and substance vs. psychotic disorders . . . 97
6.5. TLEs and personality vs. psychotic disorders . . . 97
7. Equifinality . . . 98
8. Proposed mechanisms . . . 99
8.1. Cognitive mechanisms . . . 99
8.1.1. Information processing biases . . . 99
8.1.2. External locus of control . . . 99
8.1.3. Stress sensitivity . . . 99
8.1.4. Dissociation . . . 99
8.1.5. Negative schemas . . . 99
8.2. Gender differences in the TLE-psychosis association . . . 100
8.3. Neurobiological mechanisms . . . 100
8.3.1. Stress neurobiology . . . 100
8.3.2. Gene-environment interactions . . . 100
8.3.3. Epigenetics . . . 100
9. Methodological concerns . . . 100
9.1. Reliability of self-report . . . 100
9.2. Study design . . . 101
9.3. TLE measurement . . . 101
10. Conclusions . . . 101
10.1. Clinical implications . . . 101
10.2. Summary . . . 101
Acknowledgements . . . 101
References . . . 101

1. Traumatic life events as a risk factor for psychosis: the underlying relationship

Studies yield consistent findings that traumatic life events (TLEs) are one of the most robust environmental risk factors for the development of psychosis (Bendall, Alvarez-Jimenez, Nelson, & McGorry, 2013a; Varese et al., 2012a). Overall odds of developing a psychotic disorder or positive psychotic symptoms in adolescents and adults with TLE histories ranges between 2.78 and 11.50, depending on the study methodology or TLE type (Janssen et al., 2004; Varese et al., 2012a). Individuals with psychotic disorders are also significantly more likely to report TLE histories than controls or their siblings, indicating that differences in TLE exposure may yield discordance in psychotic diagnoses (van Dam et al., 2014a). Further, methodologically rigorous clinical and general population studies find medium to large effect sizes and dose-response relationships for TLEs and psychosis, such that risk for psychotic disorders or symptoms increases substantially for each additional adversity (Janssen et al., 2004; Matheson, Shepherd, Pinchbeck, Laurens, & Carr, 2012; Thompson et al., 2009; Trauelsen et al., 2015).

There is also evidence that TLEs temporally precede the onset of psychosis, as longitudinal studies find TLEs predict psychotic symptoms (Arseneault et al., 2011; Mackie, Castellanos-Ryan, & Conrod, 2011) and that discontinuation of abuse predicts a significant reduction in psychotic experiences (Kelleher et al., 2013). Similarly, individuals experiencing psychosis with TLE histories compared to those with no TLE histories present with higher rates of psychotic symptoms, comorbid disorders, cognitive deficits, and treatment resistance, as well as earlier and more frequent hospitalizations (Hassan & De Luca, 2015; Schenkel, Spaulding, DiLillo, & Silverstein, 2005). The strength of the TLEs and psychosis association is underscored by findings that this relationship persists despite the addition of the following potential covariates: familial psychiatric history, psychiatric comorbidities, cannabis use, genetic risk, ethnicity, and education level, suggesting that TLEs are at least in part independent from these variables (Bendall et al., 2013a; Fisher et al., 2014a; Janssen et al., 2004; Kelleher et al., 2008).

A series of studies, including prospective longitudinal studies, have consistently substantiated the relationship between TLEs and the entire continuum of psychosis (Elklit & Shevlin, 2010; Shevlin, Dorahy, & Adamson, 2007), clinical high risk (CHR) for psychosis (Addington et al., 2013; Bechdolf et al., 2010; Thompson et al., 2009), and subclinical psychosis (Arseneault et al., 2011; Kelleher et al., 2013; Mackie et al., 2011). Despite findings linking TLEs to psychosis, TLEs also have been associated with other mental disorders (Green et al., 2010; McLaughlin et al., 2010), although these large comorbidity studies did not include assessment of psychotic or personality disorders. These studies also yield minimal diagnostic specificity for the onset or persistence of one disorder versus another given a TLE history. The disorders most strongly linked to TLEs (i.e., mood, anxiety, and substance use and borderline personality disorders) also are comorbid with psychotic disorders (Buckley, Miller, Lehrer, & Castle, 2009). Collectively, these findings underscore the diagnostic complexity connected to trauma sequelae, the importance of adjusting for co-occurring symptomatology when exploring the impact TLEs have on mental health, and the need for delineating why, given a TLE history, an individual may develop one disorder versus another. Therefore, it remains unclear how TLEs specifically increase risk for psychotic disorders and symptoms.

This review is intended to 1) differentiate the associations between TLEs and three psychosis outcomes from the associations between TLEs and other disorders (i.e., mood, trauma and stressor, substance use, and personality), and 2) identify the potential mechanisms specifically involved in the TLE-psychosis spectrum relation. In this article, we review the role of TLEs as a risk factor for psychosis, the specificity of the trauma – psychosis association in relation to other disorders also related to TLEs, and potential mechanisms that may uniquely link trauma to psychosis.

2. Methodology

Controversy exists about how to define psychological trauma both clinically and empirically (Weathers & Keane, 2007). Traditionally,