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Is Seasonal Affective Disorder really just a “Folk Construct”?

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Abstract

In the article “Major Depression With Seasonal Variation: Is It a Valid Construct?” recently published in *Clinical Psychological Science*, Traffanstedt et al. (2016) conclude that the Major Depression (MD) subtype Seasonal Affective Disorder (SAD) is “a folk psychological construct with limited empirical support” (p.1). In contrast to many prior studies, their report focused exclusively on DSM criterion symptoms of MD. We discuss potential limitations that result from this specific focus for the investigation of depression subtypes in general, and SAD specifically. Alternative analytic strategies may facilitate further insights into the validity of SAD.

Introduction

In their article “Major Depression With Seasonal Variation: Is It a Valid Construct?”, Traffanstedt et al. (2016) examined cross-sectional U.S. survey data and found no relationship between depression severity assessed via 8 of the 9 DSM criterion symptoms of Major Depression (MD) and latitude, season, or sunlight exposure. They conclude that Seasonal Affective Disorder (SAD) “may be strongly rooted in folk psychology, but it is not supported by objective data” (p.1).

We commend critical investigations of depression subtypes, referred to as “specifiers” in the DSM-5 (APA, 2013), because many specifiers have proved difficult to validate. During recent decades, many depression subtypes have been proposed and later discarded; recent reviews identified at least 15 subtypes commonly discussed in the literature, with little agreement regarding their number or validity (Baumeister & Parker, 2012; Lichtenberg & Belmaker, 2010).

In contrast to many prior studies that used the Seasonal Pattern Assessment Questionnaire (SPAQ) to assess SAD, Traffanstedt et al. (2016) highlight the focus on DSM-5 criterion

symptoms of MD –measured by the 8-item Patient Health Questionnaire (PHQ-8) – as a particular strength of their report. This approach is consistent with recent work on other depression subtypes. Arnow et al. (2015), for instance, tracked the DSM MD criteria over time in patients with atypical, melancholic, and anxious depression, and found that these groups do not respond differentially to different antidepressants.

Challenges and future directions

While we agree with Traffanstedt and colleagues that the SPAQ is not without shortcomings – including a retrospective assessment of seasonal patterns over the course of at least one year, which can suffer from recall bias – we see three main challenges of their analytic focus.

Analyses of symptom-level data

The first group of challenges pertains to the fact that analyses of a sum-score of DSM-5 symptoms may obfuscate important insights. There is evidence that patients with SAD exhibit a somewhat specific pattern of symptoms, including hypersomnia, weight and appetite gain, fatigue, pessimism, a lack of emotional pain, and carbohydrate craving (Keller & Nesse, 2005, 2006; Rosenthal et al., 1984; Young, Watel, Lahmeyer, & Eastman, 1991). In addition, these specific symptoms seem more common among people in northern latitudes (Dam, Jakobsen, & Mellerup, 1998; Magnusson, 2000), suggesting that SAD may be a clinical form of adaptive behavioral changes during winter. This implies that investigations into the specific symptomatology of individuals during wintertime (versus other seasons) may be required, in contrast to analyzing a sum of all DSM symptoms (Fried & Nesse, 2015). The DSM criteria for depression are compounds consisting of several sub-symptoms (e.g., ‘loss of interest *or* loss of pleasure’), three of which contain opposites such as ‘insomnia *or* hypersomnia’ and

'weight/appetite gain *or* weight/appetite loss'. This obfuscates the *direction* of the symptoms patients exhibit, and the PHQ-8 does not differentiate between such sub-symptoms. Since recent work has shown that sub-symptoms differ in important aspects such as impact on impairment of functioning (insomnia is more impairing than hypersomnia, psychomotor retardation more impairing than agitation; Fried & Nesse, 2014), treatment response (psychomotor retardation responds much more favorably to treatment; Hieronymus, Emilsson, Nilsson, & Eriksson, 2015), and even biological markers (Myung et al., 2012), analyzing DSM symptoms in disaggregated form may provide substantial insights (Fried & Nesse, 2015). This may be particularly important for SAD, given that patients may predominantly exhibit specific directions of symptoms such as increases in weight and hypersomnia.

A related point is the question which kind of depression symptoms should be analyzed, and there is little empirical or psychometric reason to favor the specific DSM symptoms of MD over other symptoms included in prominent rating scales like the Beck Depression Inventory that includes irritability, pessimism, and feelings of being punished, or the Hamilton Rating Scale for Depression that encompasses, among others, anxiety and sexual symptoms. Today's MD DSM symptoms are a result of historic (and not scientific) decisions: Cassidy et al. (1957) created a list which was later adapted by Feighner et al. (1972), and has since remained largely unchanged. But the DSM criteria do not assess a large number of important symptoms such as anxiety that depressed patients commonly exhibit (Fried, Epskamp, Nesse, Tuerlinckx, & Borsboom, 2015; ten Have et al., 2016).

A more general point about specific symptoms is that depression subtypes are often *defined* by symptoms that go beyond the 9 symptoms for MD: restlessness for anxious depression, despair for melancholia, and paralysis for atypical depression. This means that an investigation of treatment response of depression subtypes focused on only the DSM MD criteria

(Arnow et al., 2015), for instance, can be problematic. In contrast to these subtypes, SAD is not defined by symptoms beyond the DSM MD criteria, but rather by a seasonal pattern of these standard symptoms. Traffanstedt et al. (2016) note correctly that the most common instrument to assess SAD, the SPAQ, covers problems that go beyond the DSM, and that analyzing the SPAQ in prior studies has led to different conclusions about SAD in comparison to using exclusively DSM criteria. This suggests the possibility that the DSM symptoms of MD may not cover all relevant problems SAD patients exhibit, particularly those sensitive to seasonal change.

Intra-individual change and variability

A second main challenge is that the defining feature of SAD is seasonal change of symptomatology. Therefore, a cross-sectional study that only examines individuals' current symptoms in relation to their current season may fall somewhat short and may not be able to elucidate longitudinal relationships, particularly given that there is a great deal of individual variability in SAD, including a subset that experience depression in summer instead of winter (Boyce & Parker, 1988). This may explain that the study by Traffanstedt et al. contrasts with a review of prospective reports on SAD, concluding that 19 of 20 prospective studies identified seasonal variations in mood (Magnusson, 2000).

Utility of the SAD as a depression subtype

Finally, SAD stands out as a depression subtype from others in that there is growing evidence for both treatment and biomarker specificity. Light therapy in particular shows promising results, even in comparison to gold-standard psychotherapy and pharmacotherapy treatment (Golden et al., 2005; Lam et al., 2016), and specific biological correlates have been identified for SAD. These include abnormalities in melatonin secretion (Wehr et al., 2001), variations in post illumination pupil response (Rocklein et al., 2013), winter deficits in retinal function (reviewed by Lavoie et al., 2009), and electroencephalographic abnormalities during

sleep (Schwartz et al., 2001). No other subtype of depression, nor a diagnosis of major depression itself, has yet led to such promising evidence of specific biological markers or effective treatments targeting specific mechanisms, stressing the clinical utility of SAD.

Conclusion

In sum, Traffanstedt et al. (2016) are correct to point out that the focus of prior studies on assessing SAD with the SPAQ are not without considerable limitations, and their study of DSM MD symptoms adds an important piece to the literature of SAD validity. However, the question whether SAD patients exhibit seasonal variability in their problems may require future investigations of a range of specific symptoms that go beyond the DSM-5 criteria, with a focused analysis of the symptom-level instead of the syndrome-level. It will also be critical to follow patients longitudinally to assess seasonal patterns of specific symptoms within individuals, bypassing the major limitation of recall bias in the SPAQ. Moreover, research will benefit from examining other important seasonal variables beyond amount of daily sunlight or latitude, as these can be influenced by typical levels of cloud cover and smog, temperature, the amount of time an individual spends outside in daylight, and an individual's level of acclimatization to that environment (e.g., Magnusson, 2000); ambulatory monitoring (e.g., in the form of modern watches) provides opportunities to assess some of the aforementioned variables continuously for a longer timeframe. Finally, given limitations of both SPAQ and DSM-5 MD criteria outlined above, better assessments for SAD are required before we rule out SAD as a legitimate construct. Until then, the conclusion drawn by Traffanstedt et al. (2016) that SAD “is not supported by objective data” (p. 1) should be considered somewhat preliminary.

In the meantime, we believe that patients will likely benefit from a diagnosis of SAD due to the availability of specific efficacious evidence-based treatments. We are concerned that

considering SAD as a mere “folk” construct may have adverse outcomes for those affected by increasing stigma and reducing care-seeking behavior. While SAD may still require further diagnostic refinement and improvements in assessment, patients benefit from treatments targeting their seasonal depression that are currently available.

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