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37,650 ways to have "persistent complex bereavement disorder" yet only 48 ways to have "prolonged grief disorder"

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45,180 ways to have "persistent complex bereavement disorder" yet only 48 ways to have "prolonged grief disorder"

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Abstract

Persistent complex bereavement disorder (PCBD) is a condition for further study in the Diagnostic and Statistical Manual of Mental Disorders-5. Prolonged grief disorder (PGD) will likely be included in the International Classification of Diseases'-11. While it has been argued that PCBD and PGD cover the same diagnostic entity, their symptom count differs. A higher symptom count may increase the complexity of diagnostic algorithm and thereby the symptom profile heterogeneity of a disorder. Using binomial equations, a nearly thousand-fold difference in possible symptom profiles to meet PGD versus PCBD criteria was demonstrated, showing both disorders may differ more than just semantically.

Keywords

Persistent complex bereavement disorder; prolonged grief disorder; symptom heterogeneity.

With the advent of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and the forthcoming 11th edition of the International Classification of Diseases' (ICD-11) new mental disorders are defined that consist of severe, prolonged, and disabling grief reactions. Specifically, DSM-5 includes persistent complex bereavement disorder (PCBD; APA, 2013) as condition for further study and the ICD-11 will likely include prolonged grief disorder (PGD; Table 1 shows criteria - which may still be subject to change; Maercker et al., 2013). It has been argued that both proposed disorders cover the same diagnostic entity based on similarities in prevalence, specificity and sensitivity rates, and predictive validity (Maciejewski et al., 2016). There is evidence that these pathological grief reactions differ from normal grief reactions, depression, and anxiety, and are most effectively treated by grief-specific treatments (Boelen and Smid, 2017).

Clearly defined diagnostic criteria should support researchers and clinicians in identification of bereaved individuals who experience disturbed grief in order to research, develop, and provide the best possible care. Diagnostic manuals (DSM-5; ICD-10) typically use a set of a-priori rules about (clusters of) symptoms that should be present in order to meet criteria for a disorder (but note that the ICD-10 and ICD-11 (may) (also) use a prototype diagnostic approach to improve clinical utility; First, 2012). A fundamental difficulty with diagnoses based on a finite set of rules is that adding more rules to heighten specificity of the disorder, may not only increase the complexity of the diagnostic algorithm, but may also increase the likelihood of larger symptom profile heterogeneity of a disorder, which could decrease utility of a diagnosis for research and practice (Fried and Nesse, 2015; Galatzer-Levy and Bryant, 2013; Zimmerman et al., 2015). In light of the ongoing debate on defining PCBD and PGD, such concerns have not yet been addressed. This contribution therefore contains the first comprehensive assessment of differences in symptom heterogeneity between proposals of PCBD and PGD using a theoretical mathematical approach.

All possible symptom combinations and all minimum symptom combinations to meet PCBD and PGD criteria were calculated using two binomial equations (Table 1; cf. Galatzer-Levy and Bryant, 2013). To meet PGD criteria one must report at least one (k) of two (n) Cluster I symptoms and at least three (k) of five (n) Cluster II symptoms. There are two ways (i.e., 2!/1!(2-1)!) to meet one Cluster I symptom and only one way to meet both Cluster I symptoms (in total 3 ways to meet Cluster I criteria). There are 10 ways to meet three of five Cluster II symptoms (i.e., 5!/3!(5-3)!), five ways to meet four symptoms (i.e., 5!/4!(5-4)!), and one way to meet all five symptoms (in total 16 ways to meet Cluster II criteria). Sixteen multiplied by three results in 48 possibilities to meet PGD criteria. To calculate the ways to meet minimum PGD symptom criteria (i.e., only one of two Cluster I symptoms and three of five Cluster II symptoms), we multiplied the two ways to meet one Cluster I symptom with 10 possibilities to meet three Cluster II symptoms, resulting in 20 possibilities. Applying these equations for PCBD resulted in 45,180 total possibilities and 3969 minimum possibilities to meet diagnostic criteria.

So, there is almost a thousand-fold difference in the total possible symptom profiles to meet proposed criteria for PGD versus PCBD. This suggests potential differences in symptom heterogeneity between both disorders, which questions previous research indicating that these syndromes differ merely semantically (Maciejewski et al., 2016). While some symptoms may be more likely to co-occur, research, for instance in the field of depression, demonstrates that symptom heterogeneity is not merely a theoretical phenomenon (Fried and Ness, 2015; Zimmerman et al., 2015). Yet, it remains unclear to what extent PGD and PCBD merely differ regarding complexity of diagnostic algorithms or also actual symptom profile heterogeneity.

Generally, these findings are relevant for a variety of disorders, because they cast doubt on the usefulness of categorical diagnostic systems. One reaction to concerns about the validity of these systems has been to develop dimensional approaches to understand

psychopathology, for example the Hierarchical Taxonomy Of Psychopathology (HiTOP), which aims to provide an empirically based, fully dimensional organization of psychopathology (Hengartner and Lehman, 2017).

Despite growing influence of dimensional approaches to mental health, the DSM and ICD systems still strongly shape clinical research and practice. We posit that further development of grief disorders within these classification systems should aim to give succinct and the least complex descriptions of symptoms or diagnostic algorithms, to be able to make useful distinctions between normal and pathological grief. Therefore, it is important to identify distinguishing 'core' grief symptoms that reliably discern people with normal and pathological grief responses. For instance, by using latent class analyses, one may identify subgroups of bereaved people showing similar item-response patterns (i.e., grief symptom profiles), and longitudinal analysis of latent classes could be used assess temporal change in such symptom patterns (Galatzer-Levy and Bonanno, 2012). While the value of these approaches to identify symptom profiles has yet to be established (Fried and Nesse, 2015), they could form important new avenues for research into adaptive and maladaptive responses to bereavement.

Table 1. Overview of proposed criteria for PCBD and PGD

Proposed criteria	PCBD	PGD
Conditional criteria	Disturbances following the death of a significant other that last for at least 12 months, which cause clinically significant impairments in functioning and are inconsistent with social and cultural norms	Disturbances following the death of a significant other that last for at least 6 months, which cause clinically significant impairments in functioning and are inconsistent with social and cultural norms
Cluster I	At least one of four: 1. Yearning for the deceased 2. Intense sorrow 3. Preoccupation with the deceased 4. Preoccupation with the circumstances of the death	At least one of two: 1. Yearning for the deceased 2. Preoccupation with the deceased
Cluster II	At least six of 12: 1. Trouble accepting the loss 2. Disbelief 3. Difficulty with positive reminiscing	At least three of five: 1. Trouble accepting the loss 2. Anger 3. Guilt

	4. Anger	4. Feeling part of oneself died
	5. Maladaptive appraisals about oneself (e.g., self-blame)	5. Difficulty in engaging with activities
	6. Avoidance of reminders of the loss	
	7. Desire to die for reunite	
	8. Trouble trusting others	
	9. Loneliness	
	10. Life is meaningless	
	11. Confusion about one's role in life (e.g., part of oneself died)	
	12. Difficulty in engaging with activities	
All possibilities of symptom combinations $\Pi_{n=i}\left[\sum\binom{n}{k}\right]$, where $\binom{n}{k} = n!/k!(n\text{-}k)!$	45180	48
Minimum possibilities of symptom combinations	3696	20

$\Pi_{n=i}\left[\binom{n}{k}\right]$, where $\binom{n}{k} = n!/k!(n\text{-}k)!$

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