

Performance of DSM-5 Persistent Complex Bereavement Disorder Criteria in a Community Sample of Bereaved Military Family Members

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Objective: The purpose of this article was to examine the accuracy of DSM-5 proposed criteria for persistent complex bereavement disorder in identifying putative cases of clinically impairing grief and in excluding non-clinical cases. Performance of criteria sets for prolonged grief disorder and complicated grief were similarly assessed.

Method: Participants were family members of U.S. military service members who died of any cause since September 11, 2001 (N=1,732). Putative clinical and nonclinical samples were derived from this community sample using cutoff scores from the Inventory of Complicated Grief and the Work and Social Adjustment Scale. Items from a self-report grief measure (Complicated Grief Questionnaire) were matched to DSM-5 persistent complex bereavement disorder, prolonged grief disorder, and complicated grief criteria. Endorsed items were used to identify cases.

Results: Criteria sets varied in their ability to identify clinical cases. DSM-5 persistent complex bereavement disorder criteria identified 53%, prolonged grief disorder criteria identified 59%, and complicated grief criteria identified more than 90% of putative clinical cases. All criteria sets accurately excluded virtually all nonclinical grief cases and accurately excluded depression in the absence of clinical grief.

Conclusions: The DSM-5 persistent complex bereavement disorder criteria accurately exclude nonclinical, normative grief, but also exclude nearly half of clinical cases, whereas complicated grief criteria exclude nonclinical cases while identifying more than 90% of clinical cases. The authors conclude that significant modification is needed to improve case identification by DSM-5 persistent complex bereavement disorder diagnostic criteria. Complicated grief criteria are superior in accurately identifying clinically impairing grief.

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Bereavement is a common but difficult life experience, to which most people successfully adapt (1). However, bereavement has also been associated with long-term intense distress and suffering, as well as increased risk of developing physical and mental health diagnoses (2, 3). A debilitating clinical condition following bereavement has been described in the literature (4, 5) and has recently been included in DSM-5 (6) as persistent complex bereavement disorder. This condition has been previously referred to in the literature as complicated grief (5, 7) and prolonged grief disorder (8). These three labels refer to the same syndrome of clinically impairing grief, which affects approximately 7%–15% of bereaved individuals (9, 10). This syndrome is diagnosed when persistent and severe grief symptoms continue beyond 6–12 months after the death of a loved one and are associated with functional impairment. Clinically impairing grief is distinguishable from uncomplicated or normative

grief (11–14). Typical symptoms include difficulty accepting the death or a strong sense of disbelief about the death, intense yearning and longing for the deceased, anger and bitterness, distressing and intrusive thoughts related to the death, and excessive avoidance of reminders of the painful loss (10).

Although empirically based criteria sets for both prolonged grief disorder and complicated grief have been proposed, the DSM-5 Workgroup chose a new name and set of criteria. The workgroup proposed persistent complex bereavement disorder diagnostic criteria by reviewing the literature and obtaining expert consultation and consensus discussions that incorporated aspects of both prolonged grief disorder and complicated grief criteria. Prigerson et al. (8) derived criteria for prolonged grief disorder using item response theory to analyze responses to a rater version of the Inventory of Complicated Grief-Revised administered to a community-based sample. Shear et al. (7) developed a

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criteria set for complicated grief based upon factor analyses of the Inventory of Complicated Grief, the original version of the same instrument (15) administered to a clinical sample.

The DSM-5 persistent complex bereavement disorder diagnosis specifies criteria A through E. Criterion A requires that the individual has experienced the death of a loved one; criterion B requires the presence of one of four symptoms related to yearning, longing, and sorrow; criterion C requires six of 12 symptoms demonstrating reactive distress to the death or social/identity disruption; criterion D requires clinically significant distress or functional impairment; and criterion E requires that distress or impairment is outside of sociocultural norms (for a review of persistent complex bereavement disorder criteria, see Table 1). Persistent complex bereavement disorder also requires that symptoms be present for at least 12 months and that they are not better accounted for by major depressive disorder, generalized anxiety disorder, or posttraumatic stress disorder (PTSD). In recognition of their lack of validation, persistent complex bereavement disorder criteria were included in section 3 of DSM-5 "Conditions for Further Study." There is considerable interest in assessing the ability of these criteria to accurately identify bereaved individuals in need of clinical intervention (6).

Complicated grief and prolonged grief disorder criteria resemble DSM-5 persistent complex bereavement disorder criteria but differ in the time requirement (6 versus 12 months, respectively) and the type and number of symptoms required for criteria B and C (see Tables 2 and 3). In contrast to DSM-5 persistent complex bereavement disorder, prolonged grief disorder requires that yearning/separation distress be present as the sole qualifying symptom for criterion B. In addition, prolonged grief disorder requires five of nine cognitive, emotional, and behavioral symptoms in criterion C. The complicated grief diagnosis requires one of four symptoms for criteria B: 1) yearning or longing for the deceased, 2) intense loneliness, 3) feeling that life is unbearable since the death, or 4) frequent preoccupying thoughts of the deceased. In comparison to DSM-5 persistent complex bereavement disorder, complicated grief requires two of eight symptoms to meet criterion C.

The present study examines the performance of DSM-5 persistent complex bereavement disorder criteria in a community sample of family members bereaved by the death of a U.S. military service member. We report accuracy of the DSM-5 persistent complex bereavement disorder criteria in identifying putative cases of prolonged clinically impairing grief and in excluding nonclinical cases and compare this to the performance of criteria sets for prolonged grief disorder and complicated grief. Defining an evidence-supported diagnostic criteria set is essential in order to optimize our capacity to help identify and treat those suffering from clinically impairing grief.

METHOD

Community Sample

Data were derived from the National Military Family Bereavement Study, a study of the impact of military service

member death on family members (www.militarysurvivorstudy.org). Participants were surviving parents, spouses/partners, siblings, and adult children (N=1,732) of service members in the U.S. military (Army, Navy, Air Force, Marines, and Coast Guard) who died by all circumstances of death (i.e., combat, accident, suicide, homicide/terrorism, illness, undetermined) since September 11, 2001. Homicide/terrorist deaths were differentiated from combat deaths in that they were deaths that were unlawful or related specifically to terrorism and did not occur in combat. Family members were more than 1 year from the death. Participants were recruited through grief support organizations, online advertisements, and word-of-mouth and provided informed consent after receiving a description of the study. The study was conducted in accordance with ethical standards as approved by the Human Research Protection Program in the Office of Research at the Uniformed Services University of the Health Sciences.

Measures

Participants provided online consent and were asked to either complete online or pen/paper self-assessment surveys about mental health outcomes (e.g., depression, anxiety, grief, and functional impairment), demographic characteristics, and loss-related information.

Instruments used in the present analysis are listed below:

1. The Complicated Grief Questionnaire is a slightly modified self-report version of the Structured Clinical Interview for Complicated Grief (16), which is a valid and reliable instrument for assessment of items in the diagnostic criteria sets for DSM-5 persistent complex bereavement disorder, prolonged grief disorder, and complicated grief. Criterion B and criterion C symptom requirements for each criteria set and the Complicated Grief Questionnaire items that were matched to each are presented in Tables 1–3. The Complicated Grief Questionnaire differs from the Structured Clinical Interview for Complicated Grief in having 26 rather than 31 items and in providing a 5-point Likert response option.
2. The Inventory of Complicated Grief (11) is a 19-item self-report measure of clinically impairing grief symptom severity. The Inventory of Complicated Grief has been widely used as a screening tool to determine severity of clinically impairing grief (e.g., references 17–19). Cutoff scores of 25 (20) and 30 (21) have been proposed as thresholds to identify clinically significant cases.
3. The Work and Social Adjustment Scale is a 5-item, reliable, and valid self-report measure of impairment in functioning. Scores above 20 suggest moderately severe or worse impairment; scores from 10 to 20 suggest less severe clinical impairment; and scores less than 10 are associated with subclinical populations (22, 23). Similar scores have been found in multiple clinical samples (24, 25). In the present study, participants were instructed to consider grief-related impairment while completing their ratings.

TABLE 1. Performance of DSM-5 Persistent Complex Bereavement Disorder Criteria^a

DSM-5 Persistent Complex Bereavement Disorder Criteria		Clinical Sample (N=260) Overall Accurately Included: N=137 (53.3%)		Nonclinical Sample (N=675) Overall Accurately Excluded: N=670 (99.9%)	
		Criterion Endorsement ^b		Criterion Endorsement ^c	
		N	%	N	%
Criterion B: Since the death, at least one of four symptoms experienced on more days than not and that have persisted at least 12 months after the death		250	96.2	131	19.5
1. Persistent yearning/longing for deceased	Strong feelings of yearning or longing for your loved one	229	88.1	97	14.4
2. Intense sorrow and emotional pain in response to death	Intense sorrow and emotional pain because your loved one is gone	228	87.7	46	6.8
3. Preoccupation with the deceased	Thoughts or images of your loved one that intrude on your activities or on your thoughts about other things	187	71.9	25	3.7
4. Preoccupation with the circumstances of the death	Troubling thoughts about circumstances related to the death (e.g., thoughts about how or why your loved one died)	185	71.2	28	4.2
Criterion C: Since the death, at least six of 12 symptoms experienced more days than not and that have persisted for at least 12 months		140	54.5	1	0.2
1. Marked difficulty accepting death	Feelings of disbelief or feeling like you can't accept the reality that your loved one is really gone	121	46.5	3	0.4
2. Experiencing disbelief or emotional numbness	Feeling shocked, stunned, or emotionally numb because of the death	159	61.2	3	0.5
3. Difficulty with positive reminiscing about the deceased	Difficulty having positive memories about your loved one	23	8.9	6	0.9
4. Bitterness or anger related to death	Bitterness or anger related to the loss	145	55.8	18	2.7
5. Maladaptive appraisals about oneself in relation to the deceased or the death (e.g., self-blame)	Negative thoughts about yourself in relation to your loved one or the death (e.g., thinking that you let this person down or thinking you can't manage without them)	132	50.8	13	1.9
6. Excessive avoidance of reminders of the loss	Strong feelings of wanting to avoid reminders of your loved one or your loss Not doing certain things you used to do because you don't want to do them without the person who died or because it is too painful to do them since the death	136	52.5	15	2.2
7. A desire to die in order to be with the deceased	A desire to die in order to find your loved one or to be with him or her	62	23.9	0	0.0
8. Difficulty trusting other individuals since the death	Difficulty trusting or caring about other people because of your loss	131	50.4	14	2.1
9. Feeling alone or detached from other individuals since the death	Feeling alone or detached from other people because of your loss	115	44.4	24	3.6
10. Feeling that life is meaningless or empty without the deceased or the belief that one cannot function without the deceased	Feeling that life is meaningless or empty without your loved one	138	53.1	5	0.7
11. Confusion about one's role in life or a diminished sense of one's identity	Confusion about your role in life or your identity since your loved one is gone	168	64.9	17	2.5
12. Difficulty or reluctance to pursue interests since the loss or to plan for the future	Significant difficulty or reluctance to pursue interests or plan for the future because your loved one is gone	161	61.9	9	1.3

^a Percentages do not reflect missing data.^b The percent endorsed in the clinical sample with an Inventory of Complicated Grief score ≥ 30 and Work and Social Adjustment Scale score ≥ 20 and time since death more than 1 year.^c The percent endorsed in the nonclinical sample with an Inventory of Complicated Grief score < 20 and time since death more than 1 year.

TABLE 2. Performance of Prolonged Grief Disorder Criteria^a

Prolonged Grief Disorder Criteria	Complicated Grief Questionnaire Item Match	Clinical Sample (N=260) Overall Accurately Included: N=153 (59.3%)		Nonclinical Sample (N=675) Overall Accurately Excluded: N=672 (100%)	
		Criterion Endorsement ^b		Criterion Endorsement ^c	
		N	%	N	%
Criterion B: Separation distress: The bereaved person experiences yearning (e.g., craving, pining, or longing for the deceased; physical or emotional suffering as a result of the desired but unfulfilled reunion with the deceased) daily or to a disabling degree	Strong feelings of yearning or longing for your loved one Intense sorrow and emotional pain because your loved one is gone	243	93.5	104	15.4
Criterion C: Cognitive, emotional, and behavioral symptoms: The bereaved person must have five or more (of nine) symptoms experienced daily or to a disabling degree		158	61.2	0	0.0
1. Confusion about one's role in life or diminished sense of self (i.e., feeling that a part of oneself has died)	Confusion about your role in life or your identity since your loved one is gone	168	64.9	17	2.5
2. Difficulty accepting the loss	Feelings of disbelief or feeling like you can't accept the reality that your loved one is really gone	121	46.5	3	0.4
3. Avoidance of reminders of the reality of the loss	Strong feelings of wanting to avoid reminders of your loved one or your loss Not doing certain things you used to do because you don't want to do them without the person who died or because it is too painful to do them since the death	136	52.5	15	2.2
4. Inability to trust others since the loss	Difficulty trusting or caring about other people because of your loss	131	50.4	14	2.1
5. Bitterness or anger related to the loss	Bitterness or anger related to the loss	145	55.8	18	2.7
6. Difficulty moving on with life (e.g., making new friends, pursuing new interests)	Significant difficulty or reluctance to pursue interests or plan for the future because your loved one is gone	161	61.9	9	1.3
7. Numbness (absence of emotion) since the loss	Feeling shocked, stunned, or emotionally numb because of the death	159	61.2	3	0.5
8. Feeling that life is unfulfilling, empty, or meaningless since the loss	Feeling that life is meaningless or empty without your loved one	138	53.1	5	0.7
9. Feeling stunned, dazed, or shocked by the loss	Feel stunned or dazed over what happened	160	61.5	2	0.3

^a Percentages do not reflect missing data.^b The percent endorsed in the clinical sample with an Inventory of Complicated Grief score ≥ 30 and Work and Social Adjustment Scale score ≥ 20 and time since death more than 1 year.^c The percent endorsed in the nonclinical sample with an Inventory of Complicated Grief score < 20 and time since death more than 1 year.

4. The Patient Health Questionnaire-9 (26) is a 9-item measure that has been used as a reliable measure of depression in medical settings and the general population (27). A cutoff score ≥ 10 , most commonly used to determine positive screening for depression (28), was employed in the present study.

Selection of the Clinical and Nonclinical Samples (Subsets of the Bereaved Community Sample)

To determine the performance of the DSM-5 persistent complex bereavement disorder criteria set in accurately identifying cases, a putative clinical sample was identified by cutoff scores on the Inventory of Complicated Grief and the

Work and Social Adjustment Scale. These cutoffs have been reported in clinical samples (22, 23, 29) and have been associated with clinical treatment response (29, 30). Specifically, a group of bereaved family members with Inventory of Complicated Grief scores ≥ 30 (high grief symptoms) and Work and Social Adjustment Scale scores ≥ 20 (high impairment) was selected. Application of these selection criteria resulted in a clinical sample of 260 participants (15% of the bereaved community sample).

A putative nonclinical sample was created to assess the accuracy with which each criteria set excluded nonclinical cases. This nonclinical sample included community participants with an Inventory of Complicated Grief score < 20 , resulting in 675 nonclinical cases (39% of the community sample). No Work and Social Adjustment Scale threshold was used to identify the nonclinical sample.

Applying DSM-5 Persistent Complex Bereavement Disorder, Complicated Grief, and Prolonged Grief Disorder Criteria Sets to Clinical and Nonclinical Samples

The selected clinical sample was bereaved for more than 12 months and met criterion A (loss of a loved one and time since death) and criterion D (impairment) requirements for all three criteria sets. Criterion B and criterion C requirements were determined to be met by identifying responses on the Complicated Grief Questionnaire. (For details about how the Complicated Grief Questionnaire items were matched to each criteria set, see Tables 1–3.) For example, the criterion B requirement (shared by all three criteria sets) for “persistent longing or yearning” matched the following Complicated Grief Questionnaire item: “Strong feelings of yearning or longing for your loved one.” If there was more than one Complicated Grief Questionnaire item that matched the content of the required symptom, all relevant items were matched to the criterion and are shown in Tables 1–3. Individual symptoms within criteria B and C were considered present if at least one of the matched Complicated Grief Questionnaire items was endorsed at a moderate or greater level (≥ 3 on a 5-point Likert scale).

Statistical Analysis

The distributions of summary statistics (demographic characteristics, participant relation to the deceased service member, cause of death, Inventory of Complicated Grief total score, and Work and Social Adjustment Scale total score) were examined for the clinical and nonclinical samples. Chi-square or analysis of variance tests were used to compare these characteristics in the clinical and nonclinical samples.

The conditional probability of meeting DSM-5 persistent complex bereavement disorder criteria among those individuals within the clinical sample was used to indicate accurate inclusion, and the conditional probability of not meeting DSM-5 persistent complex bereavement disorder criteria among those in the nonclinical sample was used to

indicate accurate exclusion. The percentages of clinical and nonclinical sample participants who endorsed each item, as well as those who met the overall domain criterion within each criteria set, were also calculated. We repeated these analyses for prolonged grief disorder and complicated grief diagnostic criteria.

To test the impact of comorbid depression on these findings, we examined the performance of each criteria set when depression was present or absent. We examined accurate case inclusion in both grief only (Inventory of Complicated Grief score ≥ 30 , Patient Health Questionnaire-9 score < 10 , Work and Social Adjustment Scale score ≥ 20) and comorbid grief/depression (Inventory of Complicated Grief score ≥ 30 , Patient Health Questionnaire-9 score ≥ 10 , and Work and Social Adjustment Scale score ≥ 20) samples. We also examined accurate case exclusion in a high depression and low grief sample (Patient Health Questionnaire-9 score ≥ 10 , Inventory of Complicated Grief score < 20). To test the robustness of our results, we also varied the Inventory of Complicated Grief and Work and Social Adjustment Scale inclusion thresholds for the clinical sample.

All statistical analyses were performed using SAS 9.3 (SAS Institute Inc., Cary, N.C.).

RESULTS

Demographic and Other Characteristics

Community, clinical, and nonclinical samples. Demographic and other characteristics of the community, clinical, and nonclinical samples are presented in Table 4. Among participants who completed both Inventory of Complicated Grief and Patient Health Questionnaire-9 measures ($N=1,604$), 51.4% did not endorse either clinical grief (Inventory of Complicated Grief score ≥ 30) or depression (Patient Health Questionnaire-9 score ≥ 10), 48.6% endorsed symptoms of at least one disorder, and 23.5% endorsed both high grief and depression symptoms. Compared with the nonclinical sample, clinical sample participants were younger (mean age=45.4 years [$SD=11.6$] compared with 48.2 years [$SD=13.7$]), more likely to be female (87.3% compared with 73.5%), and more likely to be Hispanic (8.3% compared with 3.7%).

Performance of DSM-5 Persistent Complex Bereavement Disorder Criteria

DSM-5 persistent complex bereavement disorder criteria accurately classified 53.3% of individuals we identified as clinical cases (accurate clinical case inclusion). Criterion B was endorsed by 96.2% of clinical cases. The low overall identification of clinical cases was primarily accounted for by a low (54.5%) rate of endorsement of criterion C. Each item in criterion B was endorsed by 71% or more of the clinical sample. Individual item endorsement for criterion C ranged from 8.9% to 64.9%. DSM-5 persistent complex bereavement disorder criteria accurately excluded virtually all nonclinical cases (accurate exclusion rate: 99.9%). In the

TABLE 3. Performance of Complicated Grief Criteria^a

Complicated Grief Criteria		Clinical Sample (N=260) Overall Accurately Included: N=237 (91.9%)		Nonclinical Sample (N=675) Overall Accurately Excluded: N=656 (97.9%)	
		Criterion Endorsement ^b		Criterion Endorsement ^c	
		N	%	N	%
Criterion B: At least one of four symptoms of persistent, intense, acute grief has been present for a period longer than is expected by others in the person's social or cultural environment		251	96.5	113	16.8
1. Persistent intense yearning or longing for the person who died	Strong feelings of yearning or longing for your loved one	229	88.1	97	14.4
2. Frequent intense feelings of loneliness or like life is empty or meaningless without the person who died	Feeling that life is meaningless or empty without your loved one Intense feelings of loneliness because your loved one is gone	220	84.6	19	2.8
3. Recurrent thoughts that it is unfair, meaningless, or unbearable to have to live when a loved one has died or a recurrent urge to die in order to find or to join the deceased	A desire to die in order to find your loved one or to be with him or her	62	23.9	0	0.0
4. Frequent preoccupying thoughts about the person who died (e.g., thoughts or images of the person intrude on usual activities or interfere with functioning)	Thoughts or images of your loved one that intrude on your activities or on your thoughts about other things	187	71.9	25	3.7
Criterion C: At least two of eight symptoms are present for at least a month		242	93.8	37	5.5
1. Frequent troubling rumination about circumstances or consequences of the death (e.g., concerns about how or why the person died or about not being able to manage without the loved one, thoughts of having let the deceased person down, etc.)	Troubling thoughts about circumstances related to the death (e.g., thoughts about how or why your loved one died) Negative thoughts about yourself in relation to your loved one or the death (e.g., thinking that you let this person down or thinking you can't manage without them)	210	80.8	40	5.9
2. Recurrent feeling of disbelief or inability to accept the death, like the person cannot believe or accept that his or her loved one is really gone	Feelings of disbelief or feeling like you can't accept the reality that your loved one is really gone	121	46.5	3	0.4
3. Persistent feeling of being shocked, stunned, dazed, or emotionally numb since the death	Feeling shocked, stunned, or emotionally numb because of the death	159	61.2	3	0.5
4. Recurrent feelings of anger or bitterness related to the death	Bitterness or anger related to the loss	145	55.8	18	2.7
5. Persistent difficulty trusting or caring about other people or feeling intensely envious of others who have not experienced a similar loss	Feeling very envious of others who haven't experienced a similar loss Difficulty trusting or caring about other people because of your loss	175	67.6	37	5.5
6. Frequently experiencing pain or other symptoms that the deceased person had or hearing the voice of or seeing the deceased person	Feeling pain or other symptoms similar to what the deceased person had or hearing the voice of the deceased person or seeing the person	48	18.5	2	0.3

continued

TABLE 3, *continued*

Complicated Grief Criteria	Complicated Grief Questionnaire Item Match	Clinical Sample (N=260) Overall Accurately Included: N=237 (91.9%)		Nonclinical Sample (N=675) Overall Accurately Excluded: N=656 (97.9%)	
		Criterion Endorsement ^b		Criterion Endorsement ^c	
		N	%	N	%
7. Experiencing intense emotional or physiological reactivity to memories of the person who died or to reminders of the loss	Strong physical or emotional reactions to reminders of your loved one or your loss	172	66.4	25	3.7
8. Change in behavior due to excessive avoidance or the opposite, excessive proximity seeking (e.g., refraining from going places, doing things, or having contact with things that are reminders of the loss or feeling drawn to reminders of the person, such as wanting to see, touch, hear or smell things to feel close to the person who died). (Sometimes people experience both of these seemingly contradictory symptoms.)	Not doing certain things you used to do because you don't want to do them without the person who died or because it is too painful to do them since the death Strong feelings of wanting to avoid reminders of your loved one or your loss Wanting to see, touch, hear, or smell things that make you feel close to the person who died	221	85.3	92	13.6

^a Percentages do not reflect missing data.

^b The percent endorsed in the clinical sample with an Inventory of Complicated Grief score ≥ 30 and Work and Social Adjustment Scale score ≥ 20 and time since death more than 1 year.

^c The percent endorsed in the nonclinical sample with an Inventory of Complicated Grief score < 20 and time since death more than 1 year.

nonclinical sample, endorsement of each item in criterion B was less than 15% and less than 4% for each item in criterion C (details are presented in Table 1).

Performance of Prolonged Grief Disorder and Complicated Grief Criteria

Prolonged grief disorder criteria accurately identified 59.3% of the clinical sample (Table 2). The percentages of participants who met criterion B and criterion C in the clinical sample were 93.5% and 61.2%, respectively. Individual symptom endorsement in criterion C ranged from 50.4% to 64.9%. None of the participants in the nonclinical sample met prolonged grief disorder criteria; thus, the percentage of accurate case exclusion of prolonged grief disorder diagnosis was 100%, and individual item endorsement for criterion C was less than 3% in the nonclinical group.

The percentage of accurate case inclusion for complicated grief criteria was 91.9% (Table 3). The great majority of participants in the clinical sample met criterion B (96.5%) and criterion C (93.8%). Individual symptom endorsement in criterion B ranged from 23.9% to 88.1%, and individual item endorsement in criterion C ranged from 18.5% to 85.3%. The percentage of accurate case exclusion for the complicated grief diagnosis was 97.9%. The percentages of participants in the nonclinical sample who met criterion B and criterion C were 16.8% and 5.5%, respectively. Individual symptom endorsement was less than 15% for criterion B items and less than 14% for criterion C items in the nonclinical group.

Performance of Criteria Sets in the Presence or Absence of Comorbid Depression

Analyses of grief-only (Inventory of Complicated Grief score ≥ 30 ; Patient Health Questionnaire-9 score < 10 ; Work and Social Adjustment Scale score ≥ 20) and comorbid grief/depression (Inventory of Complicated Grief score ≥ 30 ; Patient Health Questionnaire-9 score ≥ 10 ; and Work and Social Adjustment Scale score ≥ 20) samples did not meaningfully change our findings. DSM-5 persistent complex bereavement disorder included 40.5% of the cases, prolonged grief disorder included 51.4% of the cases, and complicated grief included 86.5% of the grief-only cases (N=37). In a sample with comorbid grief and depression present (N=199), DSM-5 persistent complex bereavement disorder included 56.6% of the cases, prolonged grief disorder included 62.3% of the cases, and complicated grief included 92.0% of the cases.

The ability of the criteria sets to accurately exclude those in a high depression and low grief sample (Patient Health Questionnaire-9 score ≥ 10 and Inventory of Complicated Grief score < 20 [N=90]) was examined. Both DSM-5 persistent complex bereavement disorder and prolonged grief disorder criteria accurately excluded 100% of the cases, and complicated grief criteria excluded 98.9% of the cases.

Performance of Criteria Sets Using Different Cut-Scores for Identifying Cases

The performance of each criteria set using varying Work and Social Adjustment Scale scores ($\geq 10, 12, 16, 20, 24$) and

TABLE 4. Demographic Characteristics of Community, Clinical, and Nonclinical Samples^a

Characteristic	Community Sample ^b (N=1,732)		Clinical Sample ^c (N=260)		Nonclinical Sample ^d (N=675)		p ^e
	Mean	SD	Mean	SD	Mean	SD	
Age (years)	47.3	13.1	45.4	11.6	48.2	13.7	<0.01
	N	%	N	%	N	%	
Gender							<0.01
Male	341	19.7	33	12.7	178	26.5	
Female	1,388	80.3	227	87.3	494	73.5	
Race							0.12
White	1,584	91.6	235	90.4	626	93.2	
Other	142	8.2	24	9.2	46	6.6	
Ethnicity							0.01
Hispanic	107	6.4	21	8.3	24	3.7	
Non-Hispanic	1,557	93.0	230	90.9	623	95.9	
Participant relation to deceased							0.02
service member							
Parent	971	56.2	152	54.5	371	55.1	
Spouse	388	22.5	69	26.5	141	21.0	
Sibling	321	18.6	34	13.1	136	20.2	
Adult child	48	2.8	5	1.9	25	3.7	
Cause of death of deceased							0.03
service member							
Illness	100	5.8	20	7.8	41	6.1	
Combat-related	842	49.0	112	43.4	364	54.2	
Accident	289	16.8	42	16.3	104	15.5	
Suicide	227	13.2	34	13.2	80	11.9	
Homicide/terrorist attack	130	7.6	29	11.2	41	6.1	
Unknown cause to participant	131	7.6	21	8.1	42	6.3	
	Mean	SD	Mean	SD	Mean	SD	
Inventory of Complicated Grief total score	25.3	15.1	45.3	10.0	10.9	5.0	<0.01
Work and Social Adjustment Scale total score	10.5	10.5	28.6	5.2	3.7	5.3	<0.01
Patient Health Questionnaire-9 total score	8.4	6.8	17.2	6.1	4.4	4.5	<0.01

^a Percentages that do not add up to 100% reflect missing data.^b Sample with time since death more than 1 year.^c Sample with an Inventory of Complicated Grief score ≥ 30 and a Work and Social Adjustment Scale score ≥ 20 and time since death more than 1 year.^d Sample with an Inventory of Complicated Grief score < 20 and time since death more than 1 year.^e The p value is based on chi-square or analysis of variance tests comparing clinical and nonclinical samples.

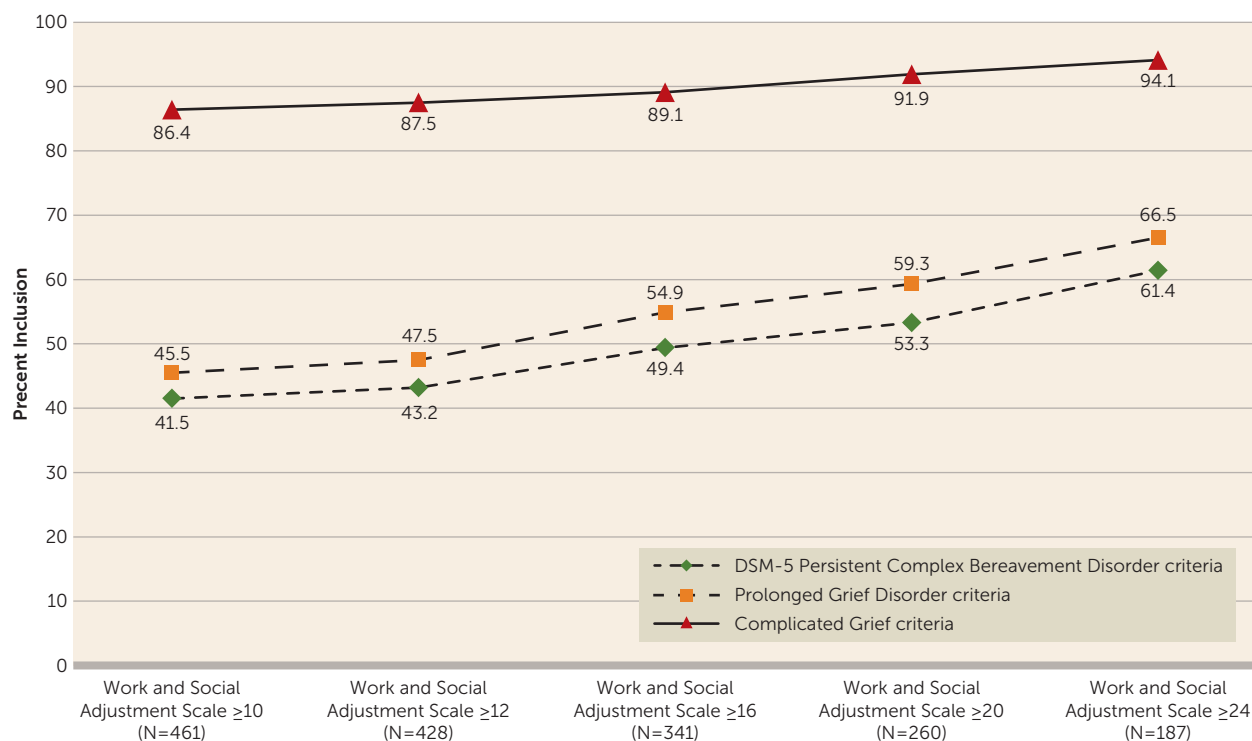
Inventory of Complicated Grief scores (≥ 20 , 25, 30) was examined. Figure 1 presents the percentage of accurate inclusion for each criteria set with fixed Inventory of Complicated Grief cutoff scores (≥ 30) and varying Work and Social Adjustment Scale cutoff scores (≥ 10 , 12, 16, 20, 24). The pattern of scores indicates that variance in cutoffs did not meaningfully change performance across criteria sets. Similarly, results did not vary across criteria sets when the Work and Social Adjustment Scale threshold score was fixed (≥ 20) and Inventory of Complicated Grief threshold scores were varied (≥ 20 , 25, 30).

DISCUSSION

This study is the first, to our knowledge, to examine the performance of recently defined DSM-5 persistent complex bereavement disorder diagnostic criteria in a large bereaved

community sample from which putative clinical and non-clinical samples were derived. Strikingly, the DSM-5 persistent complex bereavement disorder criteria identified only 53% of clinical cases while excluding virtually all of the nonclinical cases. Prolonged grief disorder criteria identified 59% of clinical cases and excluded 100% of nonclinical cases. Complicated grief criteria performed considerably better, identifying more than 90% of these putative clinical cases while still excluding 98% of the nonclinical cases. Importantly, all criteria sets effectively discriminated cases of grief from depression.

Percentage endorsement of individual items within criterion B and criterion C did not vary much within the clinical sample across criteria sets, suggesting that the low rates of accurate inclusion of clinical cases by DSM-5 persistent complex bereavement disorder criteria were likely due to the larger number of criteria required rather than lack of

FIGURE 1. Criteria Set Inclusion for a Sample With High Grief and Varying Functional Impairment^a

^a High grief is indicated by an Inventory of Complicated Grief score ≥ 30 .

endorsement of individual items. Lack of identification of nearly half of the putative clinical cases by DSM-5 persistent complex bereavement disorder criteria indicates that clinically impaired bereaved individuals will go undiagnosed and untreated using these current criteria.

This study has several limitations. First, putative clinical cases were selected by using two screening instruments (the Inventory of Complicated Grief and the Work and Social Adjustment Scale), rather than by clinical assessment. However, these screening instruments and the thresholds of each that were utilized have been used in clinical trials of complicated grief treatment (29, 30). Despite confidence in selected threshold cutoffs, we also examined whether alternative cutoffs for both the Inventory of Complicated Grief and Work and Social Adjustment Scale might alter the results and found that the pattern of differences between the criteria sets did not change.

This methodology resulted in a clinical sample representing 15% of the total community sample. Given that most military deaths result from sudden and violent causes (combat, accidents, suicides, and homicide/terrorism), which are known to contribute to higher levels of clinically impairing grief (31–32), we feel confident that this clinical sample conservatively represents the most symptomatic and impaired bereaved individuals within this community sample. As a result, we are assured that these highly symptomatic and impaired individuals are not close to the boundary with nonclinical cases and that they comprise a group in need of treatment.

Another study limitation could be that Complicated Grief Questionnaire items are not adequate to assess DSM-5 persistent complex bereavement disorder criteria. In this analysis, criterion B and criterion C individual symptom requirements were met by endorsement of matched Complicated Grief Questionnaire items, which were derived from the parent Structured Clinical Interview for Complicated Grief instrument (16). However, a bias related to using Complicated Grief Questionnaire items seems unlikely because individual item endorsement was high for all criteria sets. The low rate of inclusion of clinical cases by persistent complex bereavement disorder criteria appears to be a consequence of the number of items required, particularly in criterion C.

The fact that subjects drawn from the National Military Bereavement Study include only family members of deceased U.S. military service members may limit generalizability of our findings. However, clinically impairing grief has been identified in many different populations after variable causes of death, among bereaved people of varying age and ethnicity (7). Notably, a confirmatory factor analysis of the Inventory of Complicated Grief in our National Military Family Bereavement Study sample revealed a similar factor structure found in multiple clinical samples from the civilian community (data available upon request from Fisher et al.; data available upon request from Mauro et al.). Moreover, our results closely match those of a similar examination of diagnostic accuracy of DSM-5 persistent complex bereavement disorder criteria in a clinical help-seeking sample with very

different loss-related and demographic characteristics (data available upon request from Mauro et al.). Taken together, these findings indicate similarity in grief expression in our military sample and support the strength and validity of these findings.

Lastly, while we examined and excluded the potential confounding effect of comorbid depression, these data did not allow an examination of the effect of comorbid PTSD on the performance of these criteria sets. Future research should address the ability of clinical grief criteria to distinguish these conditions.

This study is timely, given that provisional DSM-5 persistent complex bereavement disorder diagnostic criteria were included in DSM-5 Section 3 to encourage further study. Additionally, there is now clear evidence that treatment targeting clinically impairing grief is indicated and effective (33), and it is imperative that clinicians have a method to accurately identify individuals who suffer from this syndrome. Our findings show that the currently proposed DSM-5 persistent complex bereavement disorder criteria exclude nonclinical, normative grief but are not adequate to accurately identify clinically impaired cases of grief. However, if the number of symptoms required to endorse criterion C is reduced to just one, the conditional probability of identifying clinical cases is 93%, greatly improved over the 53% obtained when using the suggested six symptoms and comparable to that achieved by the complicated grief criteria.

Clinicians should consider a diagnosis of persistent complex bereavement disorder (coded as DSM-5 other specified trauma- and stressor-related disorder; 309.89) in patients who exhibit prolonged distress and disability associated with the death of a loved one. Diagnosis should include persistent yearning, sorrow, or preoccupation with the deceased. A range of associated symptoms are listed and required to meet DSM-5 criterion C, but we recommend modification to require only one additional symptom as this would have sufficient accuracy for most clinical uses. Although a number of possible symptoms may occur, frequent troubling ruminations and avoidance behavior are very common and clinically meaningful. Additionally, clinicians should be particularly vigilant in assessing suicidal thinking, which is prevalent in this population.

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