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# Parental death in young adults with divorced compared to non-divorced parents: The effect on prolonged grief and mental health

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## ABSTRACT

This cross-sectional survey compares the risk of mental health problems like poor well-being, complicated and prolonged grief, and mental disorders between young adults experiencing a divorced or non-divorced parent's death. 190 participants were recruited from Facebook via the Danish National Center for Grief. Well-being was measured using WHO-5, prolonged grief using PG-13 and complicated grief using BGQ, and common mental disorders using CMDQ. Findings confirmed deleterious effects on mental health in young adults experiencing parental death, but higher risk, when losing a divorced parent compared to a non-divorced parent, was associated to prolonged grief, complicated grief, bodily distress syndrome, and alcohol misuse.

## Introduction

Parental death and parental divorce are among the most stressful life events that young adults can experience (Marwit & Carusa, 1998; Tebeka, Hoertel, Dubertret, & Le Strat, 2016). Studies indicate that these life events have a similar impact on the mental health of children, adolescents, and young adults (Amato, 2001; Mack, 2001; McLanahan & Sandefur, 1994; Tebeka et al., 2016). Research records some notable differences; for example, young people with divorced parents have a higher prevalence for alcohol and drug misuse, while parentally bereaved individuals are known to have significantly poorer overall health, compared to young people with no such losses (Tebeka et al., 2016). Studies have also found that the loss of parental contact through divorce and also experiencing parental death affects frequency of health complaints with bodily symptoms in adolescents (Bugge, Haugstvedt, Røkholt, Darbyshire, & Helseth, 2012; Reiter, Hjørleifsson, Breidablik, & Meland, 2013). Moreover, some studies have indicated more negative outcomes after a parental divorce than parental death (McLeod, 1991; Rodgers, Power, & Hope,

1997) or reverse; more negative outcomes after a parental death (Mack, 2001; Tebeka et al., 2016).

It is estimated that around 4% of children in the western world experience the death of one of their parents before the age of 18 (Pearlman, Schwalbe, & Cloitre, 2010). Statistics Denmark report that 3.3% of children and young adults below 30 years have experienced the death of at least one of their parents with the oldest group (29 years of age) experiencing 10.6% prevalence. In regard to divorce, OECD data indicates that countries with the highest prevalence of divorce rates reach more than 50% of all marriages (OECD, 2018). In 2017 the divorce rate for Denmark was close to 47% for all marriages (Statistics Denmark, 2018).

A total of 46% of all children in Denmark, who have lost a parent, have also experienced parental divorce during their childhood or adolescence (Frølander, 2015). Similar estimates from the USA are found to be 50% (Walls, 1995). Thus, a considerable percentage of young people have experienced both parental death and parental divorce, and these may constitute a vulnerable group. In fact, studies of double bereaved young adults, i.e. the experience of loss

through parental divorce followed by parental death, suggest that they have elevated risk of developing various mental health problems compared to individuals without any such losses (Marcussen et al., 2019). This applies to conditions such as PTSD, anxiety, depressions and psychosis (Grossman, Clark, Gross, Halstead, & Pennington, 1995; Lu, Mueser, Rosenberg, & Jankowski, 2008; Morgan et al., 2007; Oakley Browne, Joyce, Wells, Bushnell, & Hornblow, 1995). These young people may be vulnerable for various reasons including age, gender, and attachment (Marcussen et al., 2019; Werner-Lin, Biank, & Rubenstein, 2010). Lu et al. found an elevated risk of severe mental disorder when experiencing parental death concomitant with other losses like parental divorce, separation or mental illness (Lu et al., 2008). Another example of vulnerability is that the death of a parent subsequent to a divorce is related to more fear and uncertainty about the future than if the parents are living together (Gordon, Duttera, Lee, Cincotta, & Haltom, 1999), and more so if the custody parent dies (Walls, 1995; Werner-Lin, Biank, & Rubenstein, 2010). Alternatively, if the non-custodial parent dies, the child may experience disenfranchised grief or may feel alone with their grief experiences (Doka, 2008; Walls, 1995). Despite the apparent vulnerability of individuals experiencing both parental divorce and parental death, we have found no previous studies explicitly comparing the grief experience and mental health problems of such individuals with individuals experiencing parental death only. In 2018, the diagnosis of prolonged grief was added to ICD-11 (WHO - World Health Organisation, 2018). Former studies have indicated complicated grief associated with prolonged grief (Rando, 2013; Shear, Jackson, Essock, Donahue, & Felton, 2006). In the future it will be important to know more about the group of people who is at risk of developing prolonged grief, to be able to target the best interventions.

The study aimed to explore the differences between the two groups experiencing parental death. Specifically, we compare a group of bereaved young adults after a divorce and death of a parent with a group of young adults who have experienced the death of a non-divorced parent across a number of sociodemographics and background variables. We also assessed levels of grief and general mental health outcomes, hypothesizing that bereaved individuals with a divorced deceased parent report more prolonged and complicated grief and poorer general mental health than bereaved individuals who have no experience with parental divorce, even when we control for any

differences in the demographics and background variables. Based on this we posed the following research questions:

1. What sociodemographic differences characterize the group of young adults from divorced families compared to non-divorced families following the death of a parent?
2. Do young adults who experience a divorced parent's death report a higher incidence of prolonged and complicated grief (measured using PG-13 and BGQ) and higher incidence of mental health problems, measured using CMDQ (Common Mental Disorder Questionnaire) and WHO-5 (well-being), compared to young adults who experience a non-divorced parent's death?

## Methods

This cross-sectional survey compares grief and mental health problems in a group of young adults experiencing parental death in combination with parental divorce compared to a group of young adults experiencing solely parental death. The study was approved by the Danish Data Protection Agency/UCL-2015-57-0016-0005 and the Regional Scientific Ethical Committee in Southern Denmark (S-20172000-6). The survey is part of a larger study that investigates grief and mental health consequences in children and young adults who experience parental death concomitant with parental divorce (Marcussen et al., 2019). All the data for the current study were collected through online questionnaires.

## Participants

Participants were recruited from a Facebook closed group associated with The Danish National Grief Center and using an online link to the research survey system REDCap (REDCap, 2018) that screened the participants for fulfilling the inclusion criteria of the survey. This social media recruitment strategy was selected because it provided an authentic opportunity to invite the most relevant and representative informants, which are young people, and who are known to be competent users of social media platforms, with the most relevant experiences to suitably inform the research topic (Wilson & Usher, 2017). Researches that have compared online with offline populations did not find relevant differences in bereavement scores, whereas we expected this population from Facebook to be representative for the two groups of

parental bereaved young adults (Tolstikova & Chartier, 2009). The participants gave informed consent through their email. When using an online survey, it is important to consider ethical issues such as the vulnerability of the informant. In our questionnaire, we provided participants with information about how to contact the National Grief Center if they needed support following their participation in the survey. Inclusion criteria for participants to be enrolled in this study included a personal self-reported experience of the death of a divorced or non-divorced parent prior to 30 years of age. For the participants who had experienced parental divorce, only those who had done so prior to 18 years of age were included.

### Data collection – questionnaires

We included demographic questions and four scored questionnaires in the survey.

#### Demographic Questionnaire

The participants were asked to provide demographic information related to age, gender, age at parental death, age at parental divorce, cause of death for parent, deceased and surviving parent's history of use/misuse of alcohol and mental health disorder, and the participant's education, experience of support and attachment to the deceased and surviving parent.

#### WHO-5 Well-Being Index

The 5-item World Health Organization Well-Being Index is among the most used questionnaire to assess subjective psychological well-being (Topp, Østergaard, Søndergaard, & Bech, 2015). WHO defines well-being as: *"A state of well-being in which every individual realizes his or her own potential, can cope with normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community"* (Topp et al., 2015; WHO, 2014). WHO-5 was first published in 1998 and is translated into more than 30 languages and is used for research all over the world. WHO-5 has high clinimetric validity (Topp et al., 2015). WHO-5 is a short questionnaire with five simple questions and has been deemed as an adequate screening tool for depression and well-being status generally. There are 5 statements concerning the expression of feelings over the past two weeks: *"I have felt cheerful and in good spirits; calm and relaxed; active and vigorous; woke up feeling fresh and rested and daily life has been filled with things that interested me"* (Topp et al., 2015). The raw score from 0–25 is multiplied by 4 to produce a 0–100 rating scale. Score

0 represents the worst imaginable sense of well-being, while the score of 100 denotes the best imaginable sense of well-being. A score below 36 indicates a high risk of depression and long-term stress exposure. Scores from 36–50 indicate a risk for depression and long-term stress exposure. The average WHO-5 score across the Danish population is 68 indicating the average well-being score in the Danish population (Sundhedsstyrelsen - National Board of Health, 2015).

#### PG-13 Prolonged Grief Disorder

PG-13 is a 13-item diagnostic questionnaire which examines prolonged grief. Prolonged grief is from 2018 defined as a disorder and is part of ICD-11 prolonged grief disorder (PGD) (WHO – World Health Organisation, 2018). PG-13 was developed by Prigerson and Maciejewski (Prigerson et al., 2009) and translated into Danish by O'Connor (O'Connor, 2017). A meta-analysis revealed a pooled prevalence of prolonged grief of 9.8% in an adult population (Lundorff et al., 2017). PGD categorizes bereaved individuals who experience notable dysfunctions for a typically long period of time following a significant loss. It involves a persistent preoccupation with the deceased and accompanied by intense emotional pain (Lundorff et al., 2017; WHO - World Health Organisation, 2018). The symptoms of PG must be present more than 6 months following death and involve certain feelings, thoughts, and actions. The 13 questions in PG-13 are distributed on five criteria: Event criterion, separation distress, duration criterion, cognitive, emotional and behavioral symptoms, and impairment criterion. The variable symptoms of Prolonged Grief are measured as 1–5 point scale from each of 11 questions, while two items require yes/no answers, thus the possible score range is 11–55. PG-13 has been validated in several countries, one of them is Sweden, which is likely to have a close similarity to a Danish population (Pohlkamp, Kreicbergs, Prigerson, & Sveen, 2018; Prigerson, Vanderwerker, & Maciejewski, 2008; Prigerson et al., 2009; Spuij et al., 2012). While there are no officially recommended cut-off scores, we chose to select a score of 35 as the cut-off because it is most closely associated with the relevant diagnostic criteria (Pohlkamp et al., 2018).

#### BGQ Brief Grief Questionnaire

The BGQ is a 5-item interview instrument used to screen for complicated grief that can be used in clinical and research settings. It was developed for individuals who sought support after the 11 September terrorist attack in New York (Ito et al., 2012). The

scale showed good performance and has since been used in different countries both in clinical populations and in broader populations (Ito et al., 2012; Shear et al., 2006). Shear defines complicated grief as: *“Intense grief after the death of a loved one that lasts longer than expected according to social norms and causes functional impairment. Psychotherapy directed towards the loss and at restoring activities and effective functioning is recommended (Shear, 2015)”*. The five questions in BGQ are; *How much are you having trouble accepting the death of\_?; How much does the grief still interfere with your life?; How much are you having images or thoughts of when s/he died or other thoughts about the death that really bother you?; Are there things you used to do when\_ was alive that you don’t feel comfortable doing anymore or that you avoid?; How much are you feeling cut off distance from other people since \_ died, even people you used to be close to like family or friends?* Each item in the BGQ is scored from 0-2 (0 = not at all, 1 = somewhat, 2 = a lot). A score of 5 or more may indicate symptoms of complicated grief.

#### **CMDQ Common Mental Disorder Questionnaire**

The CMDQ is a screening instrument consisting of 36 questions used to measure common mental disorders. Mental disorders are known as risk factors in parentally bereaved youth (Lu et al., 2008; Tebeka et al., 2016). CMDQ was developed from six subscales and validated in 28 General Practices (GP) within Denmark in 1785 persons between 18–65 years (Christensen et al., 2005). CMDQ demonstrated high diagnostic accuracy on all diagnoses evaluated and suggested strong external validity for primary settings (Christensen et al., 2005). CMDQ screens for signs and symptoms of somatoform disorders/bodily distress syndrome, health anxiety (health worries), anxiety disorder, depression, alcohol abuse and a question of overall health. Bodily distress syndrome is included in the ICD-11 and includes most of the symptoms formerly known as somatoform disorders (Gureje & Reed, 2016; Henningsen, Zipfel, Sattel, & Creed, 2018). Most questions in CMDQ are answered on a 5-point Likert scale ranging from not at all to extremely (0–4). Alcohol-related questions are answered with a yes/no response. The outcome variable of common mental disorders involves five variables: Somatoform disorder, where 10–48 indicates an elevated risk of Bodily distress syndrome; Health anxiety, where 6–28 indicates an elevated risk of Health anxiety/illness worry; Anxiety, where 6–16 indicates elevated risk; Depression with 5–24 indicating elevated risk; and alcohol abuse, where 2–4 indicates alcohol

abuse during the prior four-week period (Christensen et al., 2005; Danish College for General Practitioners, 2013).

#### **Independent variables**

The study included several sociodemographic variables that are likely to influence young adults’ mental health and bereavement when experiencing family disruptions such as parental divorce and parental death (Mack, 2001; Tebeka et al., 2016; Marcussen et al. 2019). The respondent’s experience with parental divorce (yes/no); gender; age of the respondents; age at parental death and age at parental divorce. We controlled for who the young adult felt most attached to, using the question; *“Who have you felt most attached to?”* And we allowed for one selection from the following responses; *“Both of my parents, the deceased parent, the surviving parent, I have not felt a specific attachment to either parent, or I do not know.”* The type of support experienced throughout parental divorce and death phases were assessed using the question: *“How did x support you through a parental divorce? And, “How did x support you through your parental death?”* We allowed for answers on a five-point Likert scale ranging from none (1) to very much (5) for each of the following categories to be recorded by the informant: *“mother, father, both, partner, grandparents, teacher, nurse or doctor. I handled it myself.”* Parental health was also included and the informants were asked whether their deceased or surviving parent had a history of any mental illness or alcohol misuse; and, what was the cause of parental death using these options: cancer, sudden unexpected death (not suicide), suicide, long term chronically illness (not cancer), or other.

#### **Statistical analysis**

Differences between participants’ problems with mental health and grief were investigated by analyzing the participants in two groups: (1) The participants with a history of divorced parental death (DPD), and (2) the participants with a history of a non-divorced parent’s death (NDPD). We report frequencies and percentages for categorical variables and means and standard deviation (SD) for numerical variables. Normal distribution of numerical data was ascertained by quantile-quantile plot. We compared demographic characteristics between the two groups and tested for differences by chi-square test, respectively, *t*-test for two independent samples. The prevalence of parent’s cause of death and the differences in the young adult’s



attachment to their deceased and surviving parent are also reported. A correlation matrix of the 15 variables influencing young adult's loss through the death of a divorced or non-divorced parent was calculated by estimating Pearson's rho (numerical variables), respectively, Kendall's tau (categorical variables). Furthermore, we applied multiple regression analysis to investigate associations between prolonged grief and bodily distress symptoms and parental divorce adjusting for both parents' mental health and alcohol misuse. The statistical analyses were carried out in SPSS and  $p$ -values below .05 were considered significant.

## Results

A sample of 202 individuals was recruited and consented to participate in the study. 12 participants did not fulfill the inclusion criteria and were excluded. Hence, a total of 190 participants were included in the study. Young adult participants were defined as aged 13–29 years. The majority of participants in this sample were female 172 (90.5%) and 18 participants were male (9.5%). The mean age at parental death for the whole sample of 190 participants was 17.9 (SD 5.9) years. The frequencies of a deceased mother were 75 (40%) and a deceased father 115 (61%). Fifty-three participants had experienced parental divorce previous to parental death (Table 1) and the mean age for the participants at the time of parental divorce

was 6.6 (SD 4.4) years and for divorced parental death mean age of the participants were 19.6 (SD 4.5) years, while the mean age for participants when their non-divorced parent died was 17.2 (SD 6.3) years.

## Sociodemographic characteristics of young adults with parental death

Table 1 displays the frequencies ( $n$ ) and percentages (%) of the two groups of bereaved young adults who have experienced a divorced parent's death (DPD) or a non-divorced parent's death (NDPD).

As can be seen in Table 1, the cause of death of a parent varied significantly between the two groups ( $p = .04$ ). Across the groups, we found some differences, but the cause of death as suicide was found to be most outstanding with 9.4% in the group of young adults who had experienced divorced parent death

Table 2. Means and comparisons between groups.

	Divorced parental death			Non-divorced parental death			$p$ -Value
	$n$	mean	SD	$n$	mean	SD	
WHO-5	52	55.9	18.4	130	59.4	20.1	.27
WHO-5 < 36	52	27.56	4.2	130	22.35	8.8	.05
PG-13 > 35	52	46.0	2.6	126	39.0	3.0	.01
BGQ	53	4.3	2.3	137	3.5	2.5	.05
CMDQ:							
Bodily distress	51	11.4	8.9	122	8.5	7.2	.04
Health anxiety	51	5.9	6.3	122	6.5	7.2	.60
Anxiety	51	5.4	3.8	122	5.4	4.5	.98
Depression	51	6.4	5.6	122	5.6	5.0	.36
Alcohol	51	0.4	0.9	122	0.2	0.6	.05

Table 1. Characteristics of the participants.

Characteristics	DPD $n$	DPD %	NDPD $n$	NDPD %	$p$ -Value
Bereaved young adults					
With parental divorce and parental death	53	27.9			
No parental divorce but parental death			137	72.1	
Bereaved young adults gender					.99
Male	5	9.4	13	9.5	
Female	48	90.6	124	90.5	
Deceased parent gender					.52
Male	34	64.2	81	59.1	
Female	19	35.8	56	40.9	
Cause of Death					.04
Cancer	32	60.4	75	54.7	
Sudden unexpected (not suicide)	15	28.3	49	35.8	
Suicide	5	9.4	2	1.5	
Long term chronic disease (not cancer)	1	1.9	5	3.2	
other	0	0	6	3.6	
Most attached to					.05
Both parent	12	22.6	59	43.1	
The deceased	32	60.4	59	43.1	
The survived	9	17.0	15	10.9	
Death parents' health:					
Mental disease	6	11.3	4	2.9	.01
Alcohol misuse	9	17.0	8	5.8	.02
Survived parents' health					
Mental disease	6	11.3	7	5.1	.09
Alcohol misuse	4	7.5	5	3.6	.26

DPD: divorced parental death; NDPD: non-divorced parental death.

compared to young adults who had experienced non-divorced parent death, with only 1.5% parental suicide.

We found the attachment to the parents to be significantly related to the loss of a divorced parent ( $p = .05$ ). Only 22.6% of the young adults from divorced families reported being equally attached to both parents compared to young adults without the experience of parental divorce, who reported 43.1% felt equally attached to both parents. 60.4% of the young adults from divorced families also describe that they were mostly attached to their deceased parent compared to the group with non-divorced parental death, who only reported that 43.1% were mostly attached to their deceased parent.

Having lost a divorced parent to death seems to be associated with a statistically significant risk of having lost a parent who had a mental illness compared to having lost a non-divorced parent ( $p = .01$ ). 11.3% of the young adults' had experienced that their deceased divorced parent had suffered from mental illness compared to only 2.9% of the young adults' with a deceased non-divorced parent. A statistically significant association was also found between the death of a divorced parent and the lost parents' alcohol misuse ( $p = .02$ ) as 17% of the young adults with experience of a divorced parents' death had experienced parental alcohol misuse compared to only 5.8% of young adults with a history of a deceased non-divorced parent (see Table 1). We investigated whether age, medical treatment for physical and mental illness, education or support differed between the two groups, but did not detect significant differences.

### **Divorced and non-divorced parental death's effect on young adults' grief and mental health problems**

Tables 2 and 3 show the results including the four instruments that measured dependent variables about young adults' problems with grief and mental health.

The prevalence of young adult's problems with grief was measured using PG-13 and BGQ.

13.5% of all the young adults who had lost a parent were found to have symptoms of prolonged grief. For the group of young adults who had experienced a divorced parent's death, compared to the group who had experienced a non-divorced parent's death, they were found to have significantly higher risk of symptoms of prolonged grief ( $p < .01$ ) with a mean score of 46.0 (SD 2.6) compared to a mean score of 39.0 (SD 3.0) for the group with non-divorced parental

**Table 3.** Pearson and Kendall's Tau Correlation coefficients among the included variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Loss of divorced parent	(0.153*)													
2. Attachment to parent	(-0.031)	(-0.007)												
3. Parent's death cause	(0.175**)	(0.161*)	(0.213**)											
4. Death parent's alcohol misuse	(0.169*)	(0.152*)	(0.253**)	(0.422**)										
5. Death parent's mental illness	(0.082)	(0.015)	(0.017)	(0.104)	(-0.053)									
6. Alive parent's alcohol misuse	(0.150*)	(-0.019)	(0.045)	(0.100)	(0.012)	(0.194**)								
7. Alive parent's mental illness	0.320	(-0.045)	(0.024)	(0.071)	(0.118*)	(0.092)	(0.017)							
8. Well-being	0.670**	(0.305*)	(-0.236)	(-0.079)	(0.110)	(-0.194)	(0.096)	(-0.220)						
9. Prolonged grief	0.136*	(0.025)	(0.003)	(-0.006)	(0.053)	(-0.117)	(-0.017)	(-0.401**)	0.518**					
10. Complicated grief	0.168*	(0.000)	(-0.104*)	(-0.072)	(-0.098)	(0.000)	(-0.023)	(-0.611**)	0.241	0.515**				
11. Bodily distress syndrome	-0.040	(0.044)	(-0.147**)	(-0.086)	(-0.091)	(-0.089)	(-0.096)	(-0.407**)	0.209	0.442**	0.587**			
12. Health anxiety	-0.002	(0.019)	(-0.072)	(-0.069)	(-0.126*)	(-0.007)	(0.058)	(-0.536**)	-0.039	0.537**	0.631**	0.653**		
13. Anxiety	0.070	(0.097)	(0.044)	(-0.012)	(-0.021)	(0.006)	(0.068)	(-0.667**)	0.382*	0.565**	0.636**	0.497**	0.655**	
14. Depression	0.133*	(0.026)	(0.107)	(0.146*)	(0.143*)	(0.002)	(0.021)	(-0.118)	-0.251	0.036	0.180**	0.008	0.055	0.038
15. Alcohol misuse														

Kendall's Tau is in parentheses. \* $p < .05$ ; \*\* $p < .01$ .

**Table 4.** Multiple regression analysis for divorced parentally bereaved young adults predicting symptoms of prolonged grief.

Prolonged grief	Coefficients ( <i>B</i> )	SE ( <i>B</i> )	$\beta$	<i>p</i> -Value	95% CI lower	95% CI Upper	Adjusted <i>R</i> <sup>2</sup> 0.37
Parental divorce	6.811	1.673	0.681	.001	3.082	10.539	
Alcohol misuse LP	.407	2.667	0.029	.880	−5.175	5.988	
Mental disease LP	3.012	3.193	0.154	.357	−3.671	9.694	
Alcohol misuse SP	−2.593	2.667	−0.184	.343	−8.175	2.988	
Mental disease SP	.804	2.163	0.068	.714	−3.725	5.332	

Note: *n* = 25. Association of divorce to prolonged grief adjusted for the covariates divorced parent death, lost parent's alcohol misuse, lost parent's mental disease, survived parent's alcohol misuse, survived parent's mental disease (LP: lost parent; SP: survived parent; SE: standard error; CI: confidence interval for *B*).

death. A significantly higher risk of symptoms for complicated grief were also found in the group who had experienced a divorced parent's death ( $p < .05$ ) with a mean score of 4.3 (SD 2.3), compared to a mean score of 3.5 (SD 2.5) for the group who had experienced a non-divorced parent's death (see Table 2).

The results were confirmed when we carried out a correlation analysis showing a significant association between losing a divorced parent with symptoms of prolonged grief ( $p < .01$ ) and complicated grief ( $p < .05$ ) (Table 3). The multiple regression analysis found the risk of prolonged grief to be consistently associated with a young adult having a history of parental divorce previous to parental death ( $B = 6.811$ ,  $p = .001$ ) even if we controlled for parent's alcohol misuse and mental disease (Table 4).

The prevalence of young bereaved adult's problems with mental health was measured using CMDQ and WHO-5.

CMDQ estimated the symptoms of common mental disorders. We evaluated symptoms of bodily distress syndrome, health anxiety, anxiety, depression, and alcohol problems (Christensen et al., 2005; Gureje & Reed, 2016; Henningsen et al., 2018). We found the group of young adults with a history of divorced parental death in general to have lower well-being, higher risk of grief problems and a higher risk of common mental health problems, than the group of young adults from non-divorced families. Two of the variables were significantly associated with parental divorce. Firstly individuals who had experienced divorced parental death were more likely than those with no parental divorce but parental death to display symptoms of bodily distress syndrome ( $p = .04$ ) with a mean of 11.4 (SD 8.9) compared to young adults who had experienced parental death but not parental divorce with a mean of 8.5 (SD 7.2) (Table 2). Secondly, we found that having lost a divorced parent was significantly associated with the risk of having problems with alcohol misuse for the young adults themselves ( $p = .05$ ) (Table 2). We found that 13.8%

in the group who had lost a divorced parent expressed having problems with alcohol compared to 4.1% in the group who had lost a non-divorced parent. The correlation analysis (Table 3) also shows that the death of a divorced parent is associated with symptoms of bodily distress syndrome ( $p < .01$ ) and with the young adult's alcohol misuse ( $p < .05$ ). It also shows a significant association with the loss of a deceased parent with alcohol misuse ( $p < .05$ ) and mental illness ( $p < .05$ ) (Table 3).

We anticipated that young adults who had experienced the death of a divorced parent would have lower well-being (measured through WHO-5) than young adults with a non-divorced deceased parent, and a lower well-being score than the Danish average population (68) (Sundhedsstyrelsen - National Board of Health, 2015). Both groups were found to have lower well-being scores in WHO-5 than the average Danish population indicating lower well-being related to the death of a parent, thus indicative of a risk of depression and long term stress exposure. We found that young adults who have experienced the death of a divorced parent indicate a lower well-being score (mean 55.9, SD 18.4), than young adults who have experienced the death of a non-divorced parent (mean 59.9, SD 20.1). We tested the differences between the two groups on the well-being score in general, and found it insignificant ( $p = .27$ ) (Table 2). We tested the differences in WHO-5  $< 36$  concerning high risk of depression and long-term stress exposure and the result showed that young adults from the non-divorced parental death group (mean 22.35, SD 4.2) might have higher risk ( $p < .05$ ) than the young adults who had experienced a divorced parent's death (mean 27.56, SD 8.8) (Table 2). In the correlation analysis low well-being was found in general to be associated to the deceased parent's mental illness, and to the participant's experiences of complicated grief, bodily distress syndrome, anxiety, health anxiety, and depression, but not prolonged grief and alcohol abuse, these were only associated when young adults had lost a divorced parent to death (Table 3).



**Table 5.** Multiple Regression Analysis for divorced parentally bereaved young adults predicting bodily distress syndrome.

Bodily distress	Coefficients (B)	SE (B)	$\beta$	p-Value	95% CI lower	95% CI Upper	Adjusted R <sup>2</sup> 0.26
Parental divorce	3.530	1.338	0.206	.009	0.888	6.172	
Alcohol misuse LP	-.585	2.289	-0.022	.799	-5.103	3.933	
Mental disease LP	-3.832	2.843	-0.115	.180	-9.445	1.781	
Alcohol misuse SP	.477	2.719	0.014	.861	-4.891	5.844	
Mental disease SP	-2.060	1.818	-0.088	.259	5.650	1.531	

Note:  $n = 173$ . Association of divorce to symptoms of bodily distress adjusted for the covariates; divorced parent death, lost parent's alcohol misuse, lost parent's mental disease, survived parent's alcohol misuse, survived parent's mental disease (LP: lost parent; SP: survived parent; SE: standard error; CI: confidence interval for B)

The multiple regression analysis found the risk of bodily distress syndrome to be consistently associated with a young adult having a history of parental divorce previous to parental death ( $B = 3.530$ ,  $p = .009$ ) even if we controlled for parent's alcohol misuse and mental disease (Table 5).

## Discussion

The overall findings from our investigation of young parentally bereaved indicate the prevalence of young adult's sociodemographic characteristics, grief, and mental health problems.

Significant sociodemographic challenges were found in the group that had lost a divorced parent to death, with being less attached to both parents and having been more attached to the death parent than the survived parent. This group also has a significant higher prevalence of parental suicide, poor parental mental health, and parental alcohol misuse, compared to the group who had a history of the death of a non-divorced parent (Table 1).

In general, young adults who had experienced the death of a divorced parent showed a higher mean of grief symptoms and common mental health disorders compared to young adults who had experienced a non-divorced parent's death, except in the case of the risk of anxiety disorder and health anxiety where we found the two groups to be relatively similar (Table 2). Young adults with a history of parental divorce showed significantly higher risk for prolonged grief ( $p < .01$ ), complicated grief ( $p < .05$ ), and mental health problems such as bodily distress syndrome ( $p < .05$ ) and alcohol misuse ( $p < .05$ ), when compared to young adults without a history of parental divorce, apart from anxiety (Tables 2 and 3). The most consistent variables in our study of bereaved young adults' from divorced families were found through the multiple regression analysis to be mental health problems described as prolonged grief and bodily distress syndrome.

Other studies confirm that the experience of double bereavement has an adverse impact on young adult's

grief and mental health, such as severe mood disorders (Lu et al., 2008), depression (Oakley Browne et al., 1995), psychosis (Morgan et al., 2007) and grief and PTSD (Grossman et al., 1995). Double bereavement also negatively influences bereavement and grief responses for children experiencing divorced parental cancer, suicide, and death (Bugge, Helseth, & Darbyshire, 2008; Davey, Askew, & Godette, 2003; Grossman et al., 1995). One study involving college students found that the death of a divorced parent predicts the development of disenfranchised grief (Doka, 2008; Walls, 1995), while another study described loss of parental attachment and geographical attachment, as a consequence of the death of a divorced parent and the need to move to a new home (Werner-Lin et al., 2010). Despite the prevalence of poorer health impacts for the double bereavement group of young people, the review of the literature was unable to locate relevant studies explicitly comparing the two losses. This study is the first to investigate the impacts of prolonged grief and mental health among young adults who have experienced the death of a divorced parent compared to the death of a non-divorced parent.

## Prolonged grief and complicated grief

From 2018 the diagnosis of prolonged grief disorder was a measurement to identify some of the bereaved people that need professional intervention (WHO - World Health Organisation, 2018). A history of parental divorce for young adults, followed by the experience of the death of a parent, is an indicator for an increased risk of the development of prolonged grief disorder (Tables 2 and 3). Other studies have indicated factors that predispose towards the risk of developing prolonged grief disorder for other groups. For example, a recent systematic review and meta-analysis found that 10% of bereaved adults had a risk of prolonged grief (Lundorff et al., 2017). In our study prolonged grief correlated with a range of variables; the death of a divorced parent ( $p < .01$ ), attachment to parents ( $p < .05$ ), complicated grief ( $p < .01$ ) and depression ( $p < .05$ ), but in general, it

did not correlate significantly with poorer well-being, bodily distress syndrome, anxiety, health anxiety and alcohol misuse (Table 3). However, we did find significant associations between young adults who had lost a divorced parent to death and a greater risk of prolonged grief ( $p < .01$ ). In this group, we also found an association with a significant risk of bodily distress syndrome ( $p < .05$ ) and a significant risk of alcohol misuse ( $p < .05$ ) compared to the young adults who had lost a non-divorced parent to death. Interestingly, when we looked at the attachment it was only significantly associated with prolonged grief and divorced parent's death apart from having a history of parental mental illness and alcohol misuse (Table 3). It is possible that the reported result of the associations to attachment has to do with a history of the death of a divorced parent. It is well known within the divorce literature that decreased social support interferes with secure attachment in children's lives (Sroufe & McIntosh, 2011). It is also known within bereavement research, that young bereaved adults reporting separation and traumatic distress report more intense ongoing bonds with those they have lost (Neimeyer, Baldwin, & Gillies, 2006).

The current study found that complicated grief was significantly associated with prolonged grief (Table 3). Complicated grief is referred to, by several researchers, as prolonged grief, and opposite (Mauro et al., 2018; Rando, 2013; Shear et al., 2006). In particular, Rando describes prolonged grief as one of the complicated grief reactions (Rando, 2013). We found that complicated grief was similar to prolonged grief, with both significantly associated to the experience of a divorced parent's death ( $p < .05$ ) (Table 2), although the significant association between prolonged grief and divorced parent's death were strongest ( $p < .01$ ) (Table 3).

Across the whole sample of parentally bereaved adults complicated grief were found to be associated with the risk of mental health problems such as well-being problems, bodily distress syndrome, anxiety, health anxiety and depression ( $p < .01$ ) (Table 3), but when we compared complicated grief to prolonged grief, we found only the divorced parent's death, bodily distress syndrome and depression significantly to be associated with both (Table 3). 7.6% of respondents in a cohort study were reporting that they had complicated grief symptoms while 12.1% reported post-loss depression symptomology (Nielsen et al., 2017). We found that 13% of young parentally bereaved adults were at risk of symptoms of prolonged grief. While complicated grief has formerly been investigated as prolonged grief (Lundorff et al., 2017;

Nielsen et al., 2017), prolonged grief has also been seen as a grief reaction among other complicated grief reactions (Rando, 2013). These also include mental health problems such as depression, PTSD, anxiety, alcohol misuse, and physical illness (Maciejewski, Maercker, Boelen, & Prigerson, 2016; Prigerson et al., 2009; Rando, 2013; Shear, 2015; Tebeka et al., 2016).

### **Mental health problems**

The results showed that individuals who have a history of parental divorce prior to parental death have a significantly higher risk of developing bodily distress syndrome ( $p < .05$ ), and problems with alcohol misuse ( $p < .05$ ) compared to bereaved young adults with no experience of divorce. We found a higher risk for symptoms of depression among young adults from divorced families (mean 6.4, SD 5.6) compared to those from non-divorced families (mean 5.6, SD 5.0), but no significant differences of depression were found between the divorced and non-divorced young parentally bereaved adults (Table 2). The findings also show a significant association between having experienced parental divorce and parental death as well as bodily distress syndrome ( $p < .05$ ) (Table 3). Grief with bodily distress syndrome is characterized by the presence of distressing persistent bodily symptoms and is often manifested by repeated consultation contact with health care providers (Gureje & Reed, 2016; Henningsen et al., 2018). Other studies have found bodily distress problems in children and young adults after losing a parent to death (Bugge et al., 2012; Faccio, Ferrari, & Pravettoni, 2018), and Hauken, Senneseth, Dyregrov, and Dyregrov (2018) found a high presence of somatic difficulties among children and adolescents living with parental illness (Hauken et al., 2018).

Doubly bereaved young adults are found to have a risk of alcohol misuse ( $p < .05$ ) (Table 2). In particular, 13.8% of the young adults with a history of divorced parental death express problems with alcohol misuse compared to 4.1% from the group with a non-divorced deceased parent. Young doubly bereaved adults with alcohol misuse have significantly more often experienced the death of a parent with alcohol misuse ( $p < .01$ ). Brent, Melhem, Donohoe, and Walker (2009) found alcohol misuse after parental death to be more common among bereaved than non-bereaved youth. Lu et al. (2008) investigated correlates of adverse childhood experiences with adult severe mood disorders and found that increased exposure to adverse childhood experiences like parental divorce or

separation in combination with parental death was related to mental health problems including alcohol misuse (Lu et al., 2008). Our study found that exposure to two types of adverse childhood experiences such as parental divorce and parental death were associated with other adverse childhood experiences such as having experienced parental mental health problems and/or parental alcohol misuse.

In our study, we found higher means of depression symptomology among young bereaved adults with a divorced deceased parent. We tested for differences between the two groups and found no significance ( $p = .36$ ) (Table 2). Depression is a well-known mental health complication identified within bereavement literature (Brent et al., 2009; Oakley Browne et al., 1995; Wellisch, Ormseth, Hartoonian, & Owen, 2012), and in our correlation analysis, we found depression to be significantly associated with well-being problems, prolonged grief, complicated grief, bodily distress syndrome, health anxiety and anxiety across the whole sample of parental bereaved young adults. Brent et al. (2009) also found an increased risk of depression in youth with a history of parental death during childhood or adolescent. Brent et al. (2009) study did not describe if the parental divorce occurred prior to the parental death, but they found that depression was more common among those who have experienced parental death due to suicide or accident (Brent et al., 2009). A twin study found that early parental separation has a higher impact on adult psychopathology than parental death, including depression (Otowa, York, Gardner, Kendler, & Hettema, 2014). Our study found that young adults' with a history of divorced parental death are associated with a higher risk of generalized problems associated with grief and mental health problems. The impact of divorce on mental health is known to increase if adolescents experience loss of contact with a parent following divorce (Reiter et al., 2013). Our results indicate the importance of knowing a bereaved person's history of losses and problems to initiate the best support and to prevent mental health problems.

### **Study limitations**

The findings in current study add important new knowledge about bereavement concerning grief and mental health consequences among parental bereaved young adults from divorced families, but the following limitations should be considered; Firstly, this was a cross-sectional survey with a small sample and thus under-reporting and over-reporting of grief and mental

health problems may have occurred. However, through the use of several validated tools and various analytical methods we were able to discern consistent results.

Secondly, the respondents were all members of the Danish National Grief Center's closed group Facebook site. This may limit the generalizability to other populations because young adult members of a grief focused Facebook site could possibly experience either a higher or lower risk for prolonged grief than the general populations. We purposefully selected this particular social media recruitment strategy to ensure that relevant informants were invited to participate in the study from this site because this allowed us to limit the research group to young people with the rich life experiences aligned to our specific research investigation (Wilson & Usher, 2017). Other research that compared online with offline populations showed no relevant differences in bereavement scores (Tolstikova & Chartier, 2009), and this fact strengthens the trustworthiness of our findings.

A third limitation for this study recognizes that male respondents were underrepresented, and the number of young adults from divorced families that participated in the study could be higher. It could also have been relevant to include and compare with losses in other family structures like a young adult who loses both parents to death, grows up in a single household, foster homes, or stepfamilies (Russell, Beckmeyer, & Su-Russell, 2018). However, given the time constraint for this research, all willing participants were gathered from a finite source of relevant informants.

Finally, very few published research results exist that considered whether the parentally bereaved children, adolescents or young adult originated from a divorced family, and hence, the comparison between other studies and with our results (2019) is limited. Never the less, we have demonstrated that other studies concurred with our study that bereaved young adults experience a higher risk of mental health problems (Lu et al., 2008), and grief problems (Grossman et al., 1995; Kim, Lucette, & Loscalzo, 2013; Lundorff et al., 2017). It is recommended that these factors are taken into consideration when interpreting the results of this study and explored further in future research in this field.

### **Implications for practice**

A number of implications for practice arise from this study. Firstly, we recommend that future bereavement studies include collecting relevant data about the history of previous parental divorce before parental death when taking into account the mental health consequences and grief consequences of parental death

during clinical assessment. The results confirm that parental divorce is a factor associated with mental health problems prior to, and following parental death, together with an elevated risk of prolonged grief following the death of a divorced parent.

Secondly, the findings support the recommendation that health professionals should identify mental health problems such as bodily distress syndrome, alcohol misuse, and depression, and establish if alcohol misuse or mental illness were factors for the deceased divorced parent, where prolonged grief is considered in parental bereaved young adults from divorced families (Boelen & Prigerson, 2007; Christensen et al., 2005). Studies have shown that post-loss depression in bereaved children can be correlated to alcohol misuse among parents (Gray, Weller, Fristad, & Weller, 2011). It might not be divorce in itself, but mediating factors in the family environment prior to, and following a loss, that indicates the risk of psychopathology (Otowa et al., 2014; WHO - World Health Organisation, 2018).

Thirdly the public health care system need to implement policies and take into account prevention and intervention that is targeted towards parental bereaved children and young adults from divorced families having symptoms of prolonged grief (Aoun, Breen, O'Connor, Rumbold, & Nordstrom, 2012; Mauro et al., 2018; Rosner, Kruse, & Hagl, 2010; WHO - World health Organisation, 2018). Young adults are impacted more by the death of a parent than is the case for middle-aged adults (Hayslip, Pruett, & Caballero, 2015; Spuij, Dekovic, & Boelen, 2015). The public health care system should consider the complexity of losses, when treating disorders, specifically when treating prolonged grief, bodily distress syndrome or alcohol disorders (2015; Nilsson et al., 2009; Stroebe, Schut, & van, 2013; Tøt-Strate, Dehlholm-Lambertsen, Lassen, & Rask, 2016).

Finally, future research is recommended to explore the double bereavement issue and the development and implementation of models to ensure early intervention among critical ill divorced parents and their children. It is recommended to be aware of challenges in the family structure to prevent mental health and prolonged grief problems (2015; Russell et al., 2018). Marcussen et al. describe a divorced-family focused care model targeting interventions suitable for children and young adults who lose a divorced parent to cancer. The model recommends the following; knowing the family structure, assessing support needs, initiating well-being support and coordinate and follow-up on the children's future and well-being (Marcussen

et al., 2019). We hope to see more interventions targeted young adults from divorced families with prolonged grief in the future.

## Conclusions

This study represents the very first bereavement study that has compared grief and mental health problems in young adults experiencing divorced parental death compared to non-divorced parental death. We found that young adults who experience divorced parental death had a significantly higher risk of symptoms of prolonged grief, complicated grief, bodily distress syndrome, and alcohol misuse compared to young adults from non-divorced families that lose a parent to death. Symptoms of prolonged grief and bodily distress were found consistent even when we control for parental mental illness and alcohol misuse.

We found, in general, the group of young adults with a history of divorced parental death to have lower well-being, higher risk of grief problems and a higher risk of common mental health problems, than the group of young adults from non-divorced families.

The study highlights results that confirm that parental divorce contributes as a significant factor for mental health problems prior to parental death, and as a consequence elevates the risk of prolonged grief when parental divorce is concomitant with parental death.

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