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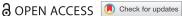
Gender differences in grief narrative construction: a myth or reality?

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ABSTRACT

Background: Narratives play a central role in the recovery process following death, and linguistic properties of grief narratives can serve as indicators of adjustment to loss. The present study examined whether bereaved men and women differ in how they discuss their loss, and how linguistic markers relate to psychological functioning. Positive associations were hypothesized between first-person singular pronoun use and psychological distress. Gender differences were expected for different emotion and social process words, and overall word use. Exploratory analyses were conducted to assess the relationship between linguistic markers and psychosocial outcomes for men and women separately.

Method: 50 bereaved widow(er)s and parents (29 women, 21 men; M_{Age} = 71.16 years, SD = 9.95) completed psychosocial self-report questionnaires and individual in-depth interviews. Grief narratives were analysed using Linguistic Inquiry and Word Count (LIWC), a software program that quantifies words into linguistic and psychological categories.

Results: Contrary to our hypothesis, first-person pronoun use was not related to psychological distress. Although gender differences emerged in self-reported psychosocial outcomes, we failed to find the predicted gender differences in linguistic markers (emotion and social process words, overall word count). Exploratory analyses revealed additional associations between linguistic markers and psychosocial outcomes, and gender differences in these relationships. Notably, first-person pronoun use was related to heightened grief avoidance. Furthermore, various linguistic markers were associated with increased depression levels in females, but not males. In contrast, nonfluencies were positively associated with indicators of psychological distress in men only.

Conclusion: In line with the gender similarities hypothesis, analyses suggest similarities between men and women's discussion of their grief experience. Associations between linguistic markers and psychological adjustment indicate that grief narratives contain meaningful indices of underlying health.

HIGHLIGHTS
• Narratives constitute one way to make sense of loss.
• The present study investigated linguistic properties of grief narratives, explored gender differences in linguistic markers, and their relationship to mental health.
• Associations between linguistic markers and psychological adjustment indicate that grief narratives contain meaningful indices of underlying health. For instance, first-person pronoun use was positively associated with grief avoidance.
• Men and women are more similar than different in discussing loss, despite self-reported differences in adjustment.

Diferencias de género en la construcción narrativa del duelo: ¿Mito o realidad?

Antecedentes: Las narrativas juegan un rol central en el proceso de recuperación posterior al fallecimiento, y las propiedades lingüísticas de las narrativas del duelo pueden servir como indicadores de adaptación a la pérdida. El presente estudio examinó si es que hombres y mujeres en proceso de duelo difieren en como discuten su pérdida, y como los marcadores lingüísticos se relacionan con el funcionamiento psicológico. Se hipotetizó que existirían asociaciones positivas entre uso del pronombre singular en primera persona y distrés psicológico. Se esperaban diferencias de género para distintas palabras sobre emociones y palabras de proceso social, y uso de palabras en general. Se realizaron análisis exploratorios para evaluar la relación entre marcadores lingüísticos y resultados psicosociales para hombres y mujeres por separado.

Método: 50 personas en proceso de duelo, tanto viudos como padres (29 mujeres, 21 hombres, M edad =71.16, Desviación Estándar = 9.95) completaron cuestionarios psicosociales de auto-reporte y entrevistas individuales en profundidad. Las narrativas del duelo fueron analizadas por Investigación Lingüística y Conteo de Palabras (LIWC por sus siglas en inglés) un programa de software que cuantifica palabras en categorías lingüísticas y psicológicas.

Resultados: Al contrario de nuestra hipótesis, el uso del pronombre en primera persona no se relacionó con distrés psicológico. Aunque emergieron diferencias de género en los resultados psicosociales auto-reportados, no logramos encontrar las diferencias de género que fueron previstas en los marcadores lingüísticos (palabras sobre emociones y proceso social, conteo de palabras en general). Los análisis exploratorios revelaron asociaciones adicionales entre marcadores lingüísticos y resultados psicosociales, y diferencias de género entre estas relaciones. Cabe destacar que el uso de pronombres en primera persona estuvo relacionado con aumentada evitación del dolour por la pérdida. Además, varios marcadores lingüísticos se asociaron con aumento de niveles de depresión en mujeres, pero

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no en hombres. En contraste, las no fluencias tuvieron asociación positiva con indicadores de distrés psicológico solamente en los hombres.

Conclusión: En línea con las hipótesis de las similitudes entre géneros, los análisis sugieren similitud de la discusión de la experiencia de duelo entre hombres y mujeres. Las asociaciones entre marcadores lingüísticos y adaptación psicológica indican que las narrativas sobre el duelo contienen índices significativos de salud subyacente.

哀伤叙事建构中的性别差异：是迷思还是现实？

背景：叙事在经历死亡后的恢复过程中起着核心作用，而哀伤叙事的语言特性可作为反映对丧亲适应程度的指标。本研究考查了丧亲男女论述其丧亲的方式及其语言标记与心理功能间关联上是否存在差异。假设第一人称单数代词的使用与心理困扰之间存在正相关。预计性别差异会体现在不同的情感与社交过程用词以及整体用词上。使用探索性分析分别评估男女的语言标记与社会心理结果之间的关系。

方法：50名丧偶者及丧子父母（29名女性，21名男性；平均年龄＝ 71.16岁，标准差 ＝9.95）完成了社会心理自评式问卷及个体深度访谈。使用语言查询和单词计数（LIWC）这种可将单词量化至语言学和心理学范畴的软件程序来分析哀伤叙事。

结果：与我们的假设相反，第一人称代词的使用与心理困扰无关。尽管在自评式社会心理结果中出现了性别差异，但我们未在语言标记（情感与社交过程词，整体词数）上发现预测的性别差异。探索性分析显示，语言标记与社会心理结果之间还有其他关联，且这些关系存在性别差异。值得注意的是，第一人称代词的使用与哀伤回避的加强相关。此外，各种语言标记与女性的抑郁水平升高相关，但与男性的无相关。相反，不流畅性仅与男性心理困扰指标呈正相关。

结论：根据性别相似性假说，分析表明男女在讨论其哀伤经历时存在相似性。语言标记与心理适应之间的关联表明，哀伤叙事包含有意义的潜在健康指标。

Experiencing the death of a loved one can shatter long-held worldviews and beliefs. Verbal and written narratives constitute one important way to make sense of and cope with emotional disturbances due to loss (Bosticco & Thompson, 2005). Narrative construction facilitates the organization of one's experiences in a coherent fashion and helps one express and explore inner thoughts and feelings (Pennebaker & Seagal, 1999). Disclosure can also help individuals derive meaning leading to adaptive health outcomes (Frattaroli, 2006). Narrative construction in bereavement is theorized to promote grief processing through confrontation with loss (Stroebe & Schut, 2010; Stroebe, Schut, & Stroebe, 2006), a notion reflected in existing grief frameworks such as the cognitive behavioural model of grief (Boelen, Van Den Hout, & Van Den Bout, 2006). Due to the theorized importance of narrative in bereavement, the present study investigated the linguistic content and implications of grief narratives for adjustment following loss.

1.1. Linguistic markers and adjustment

Linguistic analysis examines the extent to which natural language contains specific features (e.g. emotion words, pronouns). Because language is reflective of underlying cognitive representations, linguistic markers in grief narratives can be used to assess the degree to which bereaved individuals derive meaning from their loss experience and psychological adjustment. Previous research illustrates that linguistic content can be indicative of psychological functioning (Pennebaker, Mehl, & Niederhoffer, 2003). Particles of speech, or parts of individuals' speech such as pronouns or prepositions, in particular have been linked to individuals' emotional state, social identity, and cognitive styles. (Pennebaker et al., 2003). For instance, first-person pronoun use (e.g. 'I', 'me', 'my') is associated with distress, including symptoms of depression, anxiety, and rumination in clinical and non-clinical samples (Brockmeyer et al., 2015; Tackman et al., 2018). In survivors of loss, greater use of first-person singular pronouns is associated with increased emotional distress (Brubaker, Swaine-Kivran, Taber, & Hayes, 2012). Use of first-person pronouns is assumed to reflect heightened self-focus (Brockmeyer et al., 2015), and such a self-immersed perspective might undermine individuals' ability to distance themselves from negative thoughts and emotions (Brockmeyer et al., 2015; Kross & Ayduk, 2011; Pyszczynski & Greenberg, 1992), thereby contributing to maladaptive behaviours and health outcomes such as an inability ability to move on after loss (Boyraz & Efstathiou, 2011). Given these findings, we predict increased use of first-person pronouns will be related to increased levels of depression, rumination, grief, and anxiety (H1).

1.2. Gendered narratives

Bereavement is a context characterized by heightened emotional intensity, and gender socialization processes play an important role in men and women's cognitive, emotional, and behavioural responses to the death of a loved one. As explained by social role theory (Eagly, Wood, & Diekman, 2000), cultural beliefs about how men and women *should* be (i.e. gender stereotypes) emerge from repeated observations of the social roles men and women typically

occupy within a society. In Western cultures, women more frequently occupy communal roles, which require communal traits (e.g. relational, emotional expression), and men more frequently occupy agentic roles, which require agentic traits (e.g. independent, self-reliant). Through repeated experiences in these roles, men and women form different levels of expertise and comfort with agentic and communal traits, ultimately leading to gender differences in subsequent behaviour.

Although research on gender differences in linguistic markers has yet to be extended to the bereavement context, previous research documents several gender differences in everyday language use reflective of gender role socialization. For instance, in general contexts, men tend to use language more instrumentally (e.g. to convey information), while women tend to use language to communicate internal processes (e.g. to express emotion) (Newman, Groom, Handelman, & Pennebaker, 2008). Additionally, women use more positive emotion, anxiety, and sadness words, whereas men use more anger words when they do discuss their internal states (Mehl & Pennebaker, 2003; Newman et al., 2008). Research also indicates gender differences in social process words, with women (vs. men) referring to social networks and support more frequently (Newman et al., 2008), a finding in line with female gender role socialization emphasizing the importance of relational connections. These linguistic differences are further supported by the literature on coping with loss in bereavement contexts, documenting that widows are more socially integrated after spousal loss compared to widowers who tend to rely more on their own resources to cope (Stelle & Uchida, 2004; Stroebe, Stroebe, & Schut, 2001). Men's decreased opportunities for social support may, in turn, be related to them being less forthcoming about their emotional experiences, and thus making fewer references to emotions and social processes in their grief narratives.

On the basis of such reasoning and findings previously discussed, we hypothesized bereaved women would be more emotionally expressive overall by using more positive and negative emotion words (H2a), and by using more sadness and anxiety words (H2b). Bereaved men were expected to use more anger words (H2c). We also expected women to use more social process words than men (H2d). Finally, because grief narratives reflect personal and emotional encounters, we expected women to utilize more words overall than men (H2e).

To date, no empirical data has explored how men and women discuss their loss experience, and if linguistic markers of grief narratives are related to grief symptoms. Studying gender differences in adjustment to loss through the lens of language use provides a unique opportunity to enhance our understanding of grief experience. Assessing linguistic markers in grief narratives can serve as a useful tool to predict bereaved individuals' levels of distress beyond traditional methods of self-report. Linguistic features indexed in narratives may offer more direct, 'unfiltered' access to individuals' experiences. Self-report measures, in contrast, may be biased by prevailing norms and expectations regarding appropriate grief responses, thus artificially concealing or enhancing differences between men and women. Second, findings from the present study can be utilized by clinicians to tailor support and interventions accordingly (e.g. to identify early predictors of prolonged grief or to design therapeutic writing interventions which promote the use of linguistic markers associated with adaptive bereavement responses). Furthermore, variability within bereaved men and women's constructed narratives may reveal findings that run counter to existing gender stereotypical expectations, thereby debunking deeply engrained myths and stereotypes regarding gender differences in socioemotional capacity. In the end, debunking these stereotypes will encourage bereaved men and women to seek the treatment they need, regardless of whether help seeking is in line with gendered expectations. As such, we conclude by summarizing exploratory relationships between linguistic markers and self-reported psychosocial variables for men and women separately.

2. Method

2.1. Recruitment and description of participants

Data came from a mixed-methods research study investigating coping responses following loss in bereaved parents and widow(er)s using self-report questionnaires and in-depth interviews. Table 1 summarizes demographic and loss-related information. Participants were recruited via letters sent to bereaved family members identified through obituaries posted in newspapers in Southern Arizona, USA (Stelzer, Knowles, Wilson, & O'Connor, 2019). Inclusion criteria comprised death of a child and/or spouse, fluency in English, and written informed consent.

Fifty-six participants completed the questionnaires and a subset were interviewed. Individuals who did not complete the interview (n = 6) were excluded from analyses, resulting in a final sample of 50 participants (27 widow(er)s and 23 bereaved parents; see Table 1). On average, bereaved participants were 71 years old and predominantly Caucasian (96%). A majority of the sample lost their deceased through natural causes (76%) and on average four years prior to participating in the study. Approximately half of the sample expected the death, and 38% received professional bereavement support in the aftermath. Demographic and loss variables proved similar between bereaved men and women.

Table 1. Sociodemographics and loss-related information of study participants.

Variable	Women (n = 29) n (%)/M (SD)	Men (n = 21) n (%)/M (SD)	Total (N = 50) n (%)/M (SD)	t / Fisher's exact (FET)
Age (in years)	70.98 (11.62)	71.38 (7.76)	71.16 (9.95)	t (46) = .14, p = .89
Race				FET: p = .17
Caucasian/White	29 (100%)	19 (90.5%)	48 (96%)	
Non-White	0	2 (9.5%)	2 (4%)	
Ethnicity: not Hispanic or Latino[a]	27 (93.1%)	20 (95.2%)	47 (94%)	FET: p = .68
Education[b]				FET: p = .36
High school diploma or equivalency	11 (37.9%)	5 (23.8%)	16 (32%)	
Some college and above	17 (58.6%)	16 (76.2%)	33 (66%)	
Employment				FET: p = .76
Employed	9 (31%)	8 (38.1%)	17 (34%)	
Unemployed	20 (69.0%)	13 (61.9%)	33 (66%)	
Relationship to deceased				FET: p = .01
Spouse or romantic partner	11 (37.9%)	16 (76.2%)	27 (54%)	
Parent	18 (62.1%)	5 (23.8%)	23 (46%)	
Time since loss (months)	53.57 (61.58)	50.56 (84.42)	52.30 (71.26)	t (47) = −.15, p = .89
Age of deceased (in years)	50.52 (24.94)	57.81 (17.61)	53.58 (22.25)	t (47) = 1.21, p = .23
Cause of death				FET: p = .05
Non-Violent	19 (65.5%)	19 (90.5%)	38 (76%)	
Violent	10 (34.5%)	2 (9.5%)	12 (24%)	
Death was expected: yes[c]	11 (37.9%)	12 (57.1%)	23 (46%)	FET: p = .31
Professional support: yes[d]	13 (44.8%)	6 (28.6%)	19 (38%)	FET: p = .17

*** p < .001; ** p < .01; * p < .05
[a]28 females, 49 in total
[b]28 females, 49 in total
[c]only completed for death through natural causes, 20 males, 23 females, 43 in total
[d]28 females, 49 in total.

2.2. Procedure

Eligible participants received a questionnaire package prior to the interview session (i.e. at a separate time from the focal interviews). Upon completion of the questionnaire package, interviews were scheduled and conducted either in people's homes (n = 4), the laboratory on campus (n = 38), or via phone (n = 9). Participants who travelled to our laboratory had parking expenses reimbursed. All interviews were conducted by a female Psychology graduate student experienced in research with bereaved individuals.

2.3. Measures

2.3.1. Interview

The semi-structured interview focused on psychosocial aspects surrounding loss-covering themes, such as grief responses, positive and negative life changes, coping efforts, meaning making, identity, religion/spirituality, as well as support seeking behaviour. Examples of interview questions are 'How has your life changed since the death of … ?', 'Please describe the help and support you have received after the death of … ', or 'What could your grief ideally look like in a year or two?'. On average, interviews lasted 78.16 minutes (SD = 25.59).

2.3.2. Questionnaires

2.3.2.1. Anxiety and depression.
The Symptom-Checklist SCL-90-R (Derogatis, 1994; Derogatis, Lipman, & Covi, 1973) was used to assess symptoms of anxiety and depression (αs > .70). Both subscales were rated on 5-point Likert scales (0 = not at all, 5 = extremely). Higher scores were indicative of greater symptom severity.

2.3.2.2. Social support.
A shortened version of the Berlin Social Support Scales (BSSS) (Schulz & Schwarzer, 2003) assessed cognitive and behavioural aspects of social support (αs = .62 – .90). All items were rated on a 4-point Likert scale (1 = strongly disagree, 4 = strongly agree). Ratings were summed for each subscale with higher scores indicating greater social support.

2.3.2.3. Grief severity.
The 19-item Inventory of Complicated Grief (ICG) (Prigerson et al., 1995) assessed grief symptoms following the death of a loved one (e.g. preoccupation with or yearning for the deceased) (α = .90). The items were rated using a 4-point Likert scale ranging from 0 (never) to 4 (always). Ratings were summed with higher scores indicating heightened grief symptom severity.

2.3.2.4. Loneliness.
The 20-item UCLA Loneliness Scale Revised (Russell, 1996) assessed feelings of loneliness and social isolation (α = .94). All items were rated using a 4-point Likert scale (1 = never, 4 = always). Ratings were summed with higher scores indicating increased loneliness and feelings of social isolation.

2.3.2.5. Grief avoidance.
Avoidance of grief-related stimuli was measured via a set of items previously used in bereavement studies (van der Houwen, Stroebe, Schut, Stroebe, & van den Bout, 2010). Participants rated 13 statements on a 5-point scale

ranging from 1 (never) to 5 (almost constantly). Mean scores were calculated with higher scores indicating higher grief avoidance. The scale had good internal consistency (α = .87).

2.3.2.6. Grief rumination. The 15-item Utrecht Grief Rumination Scale (UGRS) (Eisma et al., 2014) measured grief specific rumination (αs = .76 – .90). All items were rated using a 5-point Likert scale (1 = never, 5 = very often), with higher values indicating greater grief rumination.

2.4. Coding and analytic strategy

All grief narratives were recorded and transcribed verbatim according to the Linguistic Inquiry and Word Count (LIWC) guidelines and submitted to the LIWC program (Pennebaker, Francis, & Booth, 2001; Tausczik & Pennebaker, 2010). LIWC is a validated text analysis program that quantifies words into over 80 psychologically meaningful categories (e.g. positive emotion words, first-person singular pronouns) (Tausczik & Pennebaker, 2010). For each grief narrative, the LIWC program produces the percentage of words (out of the total number of words) in a set of LIWC categories (see Table 2 for examples of LIWC categories used in the present study). The output provided by LIWC is the proportion of words used in the narrative that fit within a given LIWC category. For instance, a LIWC score of 5.57 for the category *negative emotion words* would indicate that a narrative consisted of 5.57% negative emotion words.

Confirmatory and exploratory analyses were conducted. We first computed descriptive statistics and comparative tests to assess differences in sociodemographic and loss-related information in our sample. To examine the relationship between first-person singular pronouns and psychosocial outcomes, we conducted Pearson bivariate correlations between first-person pronouns and depression, rumination, grief, and anxiety (H1). We next tested for gender differences in linguistic

properties within grief narratives by conducting one-way ANOVAs (H2). Specifically, we tested for gender differences in positive emotion words, negative emotion words, sadness words, anxiety words, anger words, social process words, and overall word use. We finally conducted exploratory Pearson bivariate correlations between LIWC categories and psychosocial outcomes for men and women separately. Due to the large range in bereavement length that may impact the way participants experience and discuss their loss experience (Maciejewski, Zhang, Block, & Prigerson, 2007), we included length of bereavement as a covariate in all analyses. Prior to analyses, eight outliers (z-scores > 3) were transformed to the equivalent of a z-score of 3.

Previous researchers have argued that analyses examining associations between self-report measures and behaviour tend to yield small, yet still statistically meaningful effect sizes. Based on guidelines for individual differences research (Gignac & Szodorai, 2016), we give particular attention to parameters that meet the threshold for statistical significance (p < .05) and are theoretically meaningful. Following Gignac & Szodorai's (2016) recommendations and standard best practice guidelines, we used the following effect size benchmarks for Pearson bivariate correlations: small r = .10; medium r = .20; large r = .30. For all correlations, standardized effect size (r) and bootstrapped 95% confidence intervals (CI) are reported. Partial η^2 is used as an effect size for ANOVAs with benchmarks of η_P^2 = .01 (small), η_P^2 = .06 (medium), η_P^2 = .14 (large) (Cohen, 1988).

3. Results

3.1. Gender differences in psychosocial outcomes

Consistent with previous research, we observed a number of gender differences in self-reported psychosocial symptom measures (see Table 3). Women indicated greater total perceived support (including

Table 2. Examples of LIWC indices in participant narratives.

First-person singular pronouns	'Um well sometimes *I'm* angry and sometimes like now *I'm* really sad to talk about it still, it is still early and is easy for *me* to cry.'
Fillers	'That everything *youknow* that my life has completely changed although it's still the same.'
Non-fluencies	'*Um* in terms of actual physical communication *uh* verbal communication *uh* we still didn't have a whole lot of that but when you spend almost fifty years with somebody you don't need a whole lot of verbal communications.'
Positive emotion words Negative emotion words	'And try to find the *happy* moments, and the embracement moments, or runaway moments, or whatever it takes.'
Sadness words	'She considers my daughter sort of like competition which is *sad* because you can never win a competition against someone who's dead.'
Anxiety words	'I'm *scared* too I think, because I'm afraid if I do let go right now, that my son's going to have a real mess on his hands.'
Anger words Social processes	'Will I miss him? Will I grieve? Will I be *angry*? I'll be all those things.'
Family	'Our immediate *family*, our *daughter* who flew out immediately she just dropped everything and came out and spent a couple of weeks with us um through the funeral and everything.'
Friends	'It's just a whole set of people that I um I never even knew existed in this *neighborhood*, so I've met new people and um nice people.'
Cognitive processes Insight	'I *think* probably the best way is to get it over with and done with quickly and then you can move forward.'
Causation	'I honor her by living the best way I can *because* she didn't get to do it.'

Table 3. Group differences on psychological adjustment and LIWC variables.

Psychological Adjustment Outcomes	Women (n = 29)		Men (n = 21)		Total (N = 50)		Group Differences		
	M	SD	M	SD	M	SD	F	p	partial η^2
Perceived Social Support	28.37	4.13	25.10	4.25	27.00	4.45	7.30	.01*	**.13**
Perceived Emotional Support	14.07	2.16	12.69	2.05	13.49	2.21	5.07	.03*	**.10**
Perceived Instrumental Support	14.29	2.18	12.40	2.33	13.50	2.41	8.50	.01*	**.15**
Actual Support Received	45.64	8.04	41.02	6.89	43.70	7.85	4.46	.04*	**.09**
Loneliness	34.39	9.68	41.40	12.79	37.34	11.51	4.81	.03*	**.09**
Grief Symptoms	17.95	10.11	20.75	12.72	19.13	11.24	.72	.40	.02
Rumination	31.81	12.84	32.20	10.60	31.97	11.84	.01	.92	< .01
Grief Avoidance	1.56	.53	1.79	.66	1.66	.59	1.67	.20	.03
Depression Symptoms	50.07	8.66	63.14	10.61	55.56	11.46	24.48	.01*	**.34**
Anxiety Symptoms	53.34	10.23	54.48	11.30	53.82	10.60	.12	.73	< .01
LIWC Category									
Positive emotion	2.40	.64	2.42	.53	2.41	.53	.01	.93	< .01
Negative emotion	1.54	.43	1.33	.47	1.45	.45	2.81	.10	.06
Anxiety	.20	.10	.20	.10	.20	.10	.07	.80	< .01
Anger	.24	.13	.21	.13	.23	.13	.51	.48	.01
Sadness	.69	.27	.54	.30	.63	.29	3.40	.07	.07
Social processes	12.83	1.89	12.63	2.24	12.74	2.03	.10	.75	.002
	8744	3749	8590	4535	8679	4054	.02	.89	< .01

Length of bereavement was used as a covariate. Bonferroni-corrected significance levels to account for possible alpha error accumulation due to multiple comparisons. Bold values represent parameters that meet the threshold for meaningful effects (*partial η^2*: 0.01 (small), 0.06 (medium), 0.14 (large)) suggested by Cohen (1988), as well as the threshold of p < .05.* indicate significant results at *p* < .05.

emotional and instrumental) from others than did men, and women also reported higher actual received support compared to men. Men reported greater levels of loneliness and depressive symptoms compared to women. There were no gender differences in anxiety symptoms, grief symptoms, ruminative coping, or grief avoidance. Based on existing cut-off scores (Derogatis, 1994; Prigerson et al., 1995), the sample showed subsyndromal levels of grief severity, depression and anxiety, suggesting comparatively high levels of functioning despite the loss experience.

3.2. Associations between first-person singular pronoun use and mood dysregulation

Counter to prediction (H1), first-person singular pronoun use was not significantly associated with symptoms of depression, r = .21 [−.07, .46], anxiety, r = .24 [−.05, .48], grief, r = .11 [−.17, .39], or rumination, r = .18 [−.11, .43].

3.3. Gender differences in linguistic markers

Regarding the hypothesized gender differences in linguistic markers (H2a-e), we found no gender differences in use of positive and negative emotion word use (H2a), its subcategories anxiety, sadness, and anger words (H2b-c), social process words (H2d) and overall word use (H2e) (Table 3).

3.4. Associations between linguistic markers and self-reported psychosocial outcomes

Across the total sample, exploratory analyses revealed a significant positive association between nonfluencies (e.g. uh; umm) and psychological distress (i.e. depression, anxiety and loneliness) (r = .30-.51). In

addition, fillers (e.g. you know; I mean) were positively associated with grief symptoms (r = .29). An inverse relationship emerged for use of positive emotion words, grief (r = −.31) and loneliness (r = −.35). Lastly, first-person pronoun use was positively associated with grief avoidance (r = .32), and anxiety words were related to self-reported anxiety levels (r = .28). All correlations including bootstrapped 95% CIs are reported in the supplement.

We next examined these relationships separately by gender. In the following, we only highlight key findings. For a complete overview, see the supplemental data. First-person singular pronoun use was positively associated with depression symptoms for women (r = .50), but not for men. For women, higher levels of depressive symptoms were further associated with various linguistic markers including cognitive processes and insight words (r = .53-.58) as well as heightened use of negative emotion words (r = .40-.48). In addition, negative emotion and sadness words (r = .39-.43) were linked to rumination and symptoms of anxiety, respectively, in women. For men, in contrast, positive but not negative emotion words were related to psychosocial outcomes (i.e. decreased grief; r = −.53). For men, nonfluencies were related to various indices of distress including depression, grief, and anxiety (r = .44-.71).

4. Discussion

Following the death of a loved one, narratives can help bereaved people make sense of loss and their linguistic content may be associated with adjustment outcomes. The present study investigated linguistic markers of grief narratives, explored gender differences in these markers, and their relationship to mental health outcomes in bereavement.

Building on the existing association between first-person pronoun use and levels of distress (Brockmeyer et al., 2015; Tackman et al., 2018), we tested whether increased use of first-person singular pronouns in grief narratives would be associated with higher levels of depression, grief, rumination, and anxiety. We failed to confirm this hypothesis across the entire sample, but interestingly, in exploratory analyses, an association between first-person pronoun use and depression emerged for women. Upon further examination of existing research on first-person pronoun use and levels of distress, we note that previous studies vary greatly in their gender composition, and many samples have been predominantly female, especially clinical ones (Brockmeyer et al., 2015; Rude, Gortner, & Pennebaker, 2004; Zimmermann, Wolf, Bock, Peham, & Benecke, 2013). Furthermore, few studies directly examine gender differences in self-referent word use. One of them (Fast & Funder, 2010) found that the positive association between first-person pronoun use and depressive symptoms was stronger for women than men, which is in line with our findings.

The fact that first-person pronoun use was not associated with any other indices of psychological distress beyond depression might be explained in terms of the grief-specific (vs. global trait) measures used in the present study. As outlined earlier, first-person pronoun use displays an individual's tendency to self-focus. Grief severity and grief rumination, however, reflect a focus on aspects of the death or the deceased (e.g. reliving the death scene, inability to accept the death) rather than a global assessment of negative thinking about oneself. These loss-specific measures used in the present study may also be one of the reasons for the few gender differences in self-reported distress. Even though gender differences in grief severity, grief rumination or grief avoidance seem plausible based on the literature of gender differences in rumination and affective disorders (Johnson & Whisman, 2013), research on gender differences in the bereavement context is scant and rather mixed with some studies documenting the expected differences (e.g. higher grief rumination in bereaved women; van der Houwen et al., 2010), while other studies report no differences (Boelen & van den Bout, 2003; Lawrence, Jeglic, Matthews, & Pepper, 2005–2006).

We hypothesized that women would use more positive and negative emotion words, anxiety and sadness words, utilize more social process words, and make more overall use of words. Men's narratives, in contrast, were expected to contain more anger words. Contrary to these hypotheses, we found no differences. This is puzzling as it fails to replicate previous research reporting gender differences in various linguistic categories (Mehl & Pennebaker, 2003; Newman et al., 2008). It

also contradicts bereavement findings that women are more expressive of their grief, and confide in others more often compared to male counterparts (Stroebe et al., 2001).

While our findings are inconsistent with the literature on gender differences in linguistic markers, there are reasons why this may be the case. First, gender differences in linguistic markers may truly exist, but our small sample size restricted our ability to detect such differences. Furthermore, features of our sample and contextual factors may have led to unexpected similarities in the grief narratives of men and women. Our sample was comprised of men and women who voluntarily agreed to participate in a study about their experience with the death of a loved one, suggesting this sample may have been particularly comfortable and motivated to discuss their response to the loss. Moreover, previous research emphasizes the importance of the situational context in predicting gender differences in behaviour. Gender differences are most likely to occur in contexts where gender roles are particularly salient, when the behaviour is in a gender stereotyped domain, and when people expect observers to hold more traditional gender role expectations (Bosson, Taylor, & Prewitt-Freilino, 2006; Deaux & Major, 1987). For instance, Bosson et al. (2006) found that people experience greater discomfort when violating gender roles in the presence of multiple onlookers as opposed to a single observer. Participants in their study also expressed greater discomfort violating gender role stereotypes in front of male perceivers rather than female perceivers, and when the violations occurred in the presence of strangers as opposed to close others. Given these findings, we posit that disclosing one's grief in private to a single, female interviewer – as opposed to a larger group, in public, or a male interviewer – may have minimized pressure to conform to traditional gender role expectations, perhaps leaving participants less restricted by gender role expectations in their narratives.

Beyond situational and sample characteristics, it may also be the case that our hypothesis was incorrect, and gender differences in the way men and women discuss grief simply do not exist. Research on the gender similarities hypothesis (Hyde, 2005) suggests that men and women are more similar than different on many psychological variables. For example, despite widespread assumptions that men and women differ in the way they communicate, the magnitude of this difference is quite small (Hyde, 2005). These subtle differences may explain why the expected gender effects did not emerge in the present study. Additionally, previous research examining gender differences in linguistic markers is inconsistent and often finds no gender differences, suggesting these beliefs stem from oversimplified stereotypes

(Mehl, Vazire, Ramirez-Esparza, Slatcher, & Pennebaker, 2007). While the gender similarities hypothesis may explain the lack of gender differences in our sample, it is important to note this explanation is speculative.

4.1. Exploratory analyses

Despite observed gender similarities in language use, exploratory analyses illustrate interesting associations between linguistic properties and adjustment, some of which differ by gender. For instance, first-person singular pronoun use was related to increased levels of grief avoidance (i.e. behaviours to avoid painful reminders of loss). Even though avoidance can be an adaptive response immediately following the death, *deliberate* grief avoidance is associated with prolonged grief as it impedes processing of the loss (Boelen & Eisma, 2015). In line with rumination as avoidance hypothesis (Stroebe et al., 2007), increased self- (vs. loss) focus as displayed via first-person singular pronouns may allow bereaved individuals to avoid the painful reality of the loss (Kaplow et al., 2018).

With respect to gender differences in these associations, we found that depression was related to various linguistic markers (e.g. first-person singular pronouns, negative emotion words, insight and cognitive process words) for women but not men. First-person pronoun use was related to symptoms of depression, a finding which partly corroborates existing research on first-person pronoun use and emotional distress during bereavement. Individuals who grapple with their loss may exhibit greater difficulty distancing themselves when discussing death. Men, in contrast, did not express distress through increased first-person singular pronoun use even though men in our sample reported greater levels of loneliness and depressive symptoms.

For men, nonfluencies were indicative of distress symptoms (e.g. depression, grief anxiety). In the bereavement context, use of nonfluencies may reflect incoherent grief narratives and failure to make meaning out of loss experience. Simultaneously, these utterances may reflect uncertainty and insecurity articulating grief experience, perhaps due to fewer opportunities to share one's story with others. Not only do gender socialization processes discourage emotional disclosure among men (Shields, 1987), but decreased support opportunities (Stroebe et al., 2001) may further restrict men's grief verbalization. Although research on nonfluencies measured via LIWC is scarce, linguists describe the use of such verbalizations as reflective of speakers being unable to proceed (e.g. uncertainty, gathering thoughts, searching for words) (Clark & Fox Tree, 2002).

Another interesting gender difference emerged in the association between negative and positive emotion words and various psychosocial indices. Not surprisingly, positive emotion words were inversely related to grief, but only for men. For women, negative emotion words and sadness and anxiety words were associated with psychological distress (i.e. depression, rumination, anxiety). These findings suggest positive emotions may be a better indicator of men's adjustment to loss, while negative emotions can serve as a proxy for women's distress. These gender differences extend literature on the benefits of positive emotions words during bereavement (Brubaker et al., 2012) which may reflect adaptive appraisals of grief experience and functional strategies to deal with loss (e.g. engaging in social activities). For a long time, experiencing positive emotions during distress was considered pathological (Bowlby, 1980). Recent empirical findings, however, suggest that survivors of loss – even when highly distressed – benefit from positive emotions, with individuals reporting lower levels of grief, depression and emotional problems (Lenferink, Wessel, & Boelen, 2018; Tweed & Tweed, 2011).

4.2. Limitations and future directions

Limitations include the relatively small sample size and cross-sectional design. We were unable to directly test gender as a moderator in the relationship between psychosocial outcomes and linguistic markers of grief narratives, and to test for other interesting differences between subgroups (e.g. bereaved parents vs. spouses) due to the small sample size. Future research should be conducted with larger sample sizes to test these subgroup differences. Results may also be biased due to the convenience sampling and self-selection of individuals who agreed to participate in an interview study. Our sample may over represent well-adjusted individuals who willingly share their story with others while underrepresenting grievers who feel less comfortable talking about their experience (which is also suggested by the comparatively low levels of grief and other distress indices). This, combined with our attempt to recruit a diverse sample in terms of length of bereavement and death characteristics may have affected our results and affects generalizability to other bereavement studies. Gender differences, for instance, could be more pronounced immediately following loss when emotional intensity is high. This may have contributed to the few significant associations between linguistic features and psychological health, and the few overall gender differences found in the present study. However, Baarsen and Broese van Groenou (2001), report that bereaved men (vs. women) share their emotions more often with others as time goes by.

For this reason, we included length of bereavement as a covariate in all our analyses.

Another limitation to note is the lack of diversity with respect to participant age in our sample, as participants were primarily elderly adults. Findings with respect to age differences in bereavement outcomes are mixed, with some research suggesting older adults, relative to younger adults, have an increased risk of developing disordered grief (Kersting, Brahler, Glaesmer, & Wagner, 2011), while other research fails to find such age differences (Nielsen et al., 2017). Previous research also indicates that younger bereaved adults display more adverse outcomes than older adults, as documented by younger adults exhibiting increased post loss-depressive symptoms and higher mortality risk following a loss (Nielsen et al., 2017; Stroebe, Schut, & Stroebe, 2007). Our sample restricted the ability to test for age differences in bereavement outcomes and to increase the generalizability of our findings, future research should examine linguistic markers and psychological outcomes in both young and older adults.

Nevertheless, the study is unique for a number of reasons. First, this study is novel as it explored linguistic markers and the role of gender in verbal rather than written grief narratives. Second, it included both bereaved parents and widow(er)s, and thus extends existing bereavement and linguistics literature. Third, the present study examined the relationship between grief narratives and psychological adjustment through the lens of gender similarities and differences. This unique contribution lays the foundation for future studies to elucidate the role of grief narratives in adjustment to loss.

Overall, our findings provide a starting point and should stimulate further research on linguistic characteristics of grief narratives during bereavement. Future research would benefit from increased sample size and longitudinal assessments. Besides artificial lab contexts, naturalistic assessment of grievers' conversations (e.g. through the Electronically Activated Recorder) in their daily lives could enhance future research designs. As argued previously, results may differ if language is tracked in daily life as opposed to a private and anonymous laboratory setting.

5. Conclusion

The present study provides preliminary evidence that men and women share more similarities than differences in how they construct their grief narratives, despite self-reported differences in psychological adjustment. Associations between linguistic markers and adjustment point to the value of examining grief narratives as predictors of adjustment.

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