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Factors associated with alcohol and substance use in bereaved college and university students

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Factors associated with alcohol and substance use in bereaved college and university students

Abstract

Objectives: Experiencing the death of a loved one increases the risk of developing mental health problems. Students are vulnerable to developing mental health problems, to which substance use can contribute. Still, few studies have examined substance use in bereaved students.

Methods: Using an online survey, we collected data about the impact of the death of a loved one on Belgian student’s (N = 666) substance use and its relation to social support, grief, mental health distress and personal growth.

Results: An important part of students indicated that the death affected their substance use. Feelings of grief and mental health distress played a significant role in students whose substance use increased after the death. We did not find a significant relationship between social support and personal growth and substance use.

Conclusions: Our findings indicate the need for mental health professionals to address substance use when working with bereaved students to ensure early intervention and adequate support.

Keywords: Bereavement; students; substance abuse; alcohol abuse; distress; grief; social support
Introduction

Experiencing the death of a loved one is one of the most distressing events in the lives of emerging adults and students (Balk et al., 2010). Bereaved students can experience sleeplessness, depressive symptoms and decreased motivation which in turn can affect their academic performance and increase the risk of developing mental health problems, such as depression, anxiety and posttraumatic stress disorder (Cupit et al., 2016; Elsner et al., 2021). Keyes and colleagues (2011) found that the death of a loved one was an important predictor of alcohol abuse, and Rosenberg and colleagues (2015) reported an increase in the use of alcohol and illegal drugs after the death of a sibling in this population.

Despite the negative impact of bereavement, students appear to be hesitant to seek formal support during their grieving process (Walker et al., 2011). Important barriers in accessing help include personal attitudes (such as shame regarding mental health help-seeking), feelings of self-reliance, lack of knowledge of availability of services, and financial issues (Hunt & Eisenberg, 2010; Summerhorst et al., 2017, Tan & Andriessen, 2021). Bereaved students seem to rely more on informal support from friends and other students than on support from professionals (Tedrick Parikh & Servaty-Seib, 2013). Social support is a positive predictor of academic and social adjustment in bereaved students (Cousins et al., 2017). It can help them with mental health problems, such as severe mental health distress and substance abuse, by offering them more adaptive coping mechanisms (Birtel et al., 2017). However, peers and family may not be well-equipped to provide this support, and the availability of their support may be limited by their expectation that grief is finite (Balk, 2010).
Sharing emotions with others can contribute to development of personal or posttraumatic growth (Balk, 2008; Cohen & Samp, 2018). Posttraumatic growth refers to a positive psychological transformation experienced by people after struggling with a traumatic or highly distressing life event (Tedeschi et al., 2018). Personal growth is similar to posttraumatic growth but differs in that the life events have to be challenging enough to lead to a transformation in the individual, but they do not have to be traumatic (Tedeschi et al., 2018). Bereaved students have reported an increased appreciation of life and relationships with others, and becoming more mature and confident after the bereavement (Tedeschi et al., 2018). Focusing on the relationship between posttraumatic growth and alcohol use, McDiarmid and colleagues (2017) found that students struggled to find a new path in life after the death of a loved one, and that their alcohol consumption decreased when they managed to find this path.

As the use of alcohol or other substances is often part of students’ culture, these substances can be used as coping mechanisms but can also lead to an increase in health risk behaviours and academic problems (Osberg et al., 2010). Bereavement can exacerbate mental health problems in students (Fowler, 2006; Cooley et al., 2010). Students are sensitive to developing mental health problems, to which substance use can contribute (Arnett, 2014; Osberg et al., 2010). Bereaved students are at a higher risk of developing anxiety and depression than their non-bereaved peers (Fowler, 2006; Cooley et al., 2010). Still, few studies have examined substance use in bereaved students. A better understanding of the variables that impact on substance use in this population may enable better support and targeted interventions.
The primary aim of this study was to examine (1) the impact of the death of a loved one on the substance use of students. We also studied the relationship between substance use and (1) social support, (2) grief, (3) mental health distress and (4) personal growth in bereaved students. Based on findings by Rosenberg and colleagues (2015), we expected that participants would report having used more substances after the bereavement, but that the use decreased over time. We also expected a significant negative association between substance use and social support (Birtel, 2017), and a significant positive association between substance use, grief and mental health distress (Balk et al., 2010; Cupit et al., 2016; Keyes et al., 2011). Lastly, we expected a significant negative association between substance use after bereavement and personal growth (McDiarmid et al., 2017).

**Method**

**Study design and sampling**

We created an online survey using Qualtrics, which was accessible between March and October 2020. Eligible participants were: i) aged between 18 and 28 years, ii) enrolled in a Flemish university or college, iii) bereaved by the death of a loved one after their 12th birthday (to minimize recall bias) and at least 6 months prior to participating in the study. All participants provided online informed consent and could anonymously enter a draw to win one of five €20.00 gift vouchers. We disseminated the study announcement through 200 student organisations at 18 Flemish universities and colleges, and via social media (Facebook, LinkedIn and Twitter). The Social and Societal Ethics Committee of the KU Leuven – University of Leuven, Belgium (G-2019 10 1762, March 19, 2020) had approved the study.

**Measures**
Participants provided sociodemographic information, such as their age and gender, and replied to closed-ended questions about the death of their loved one and their relationship to this person.

While preparing the study, we could not identify a suitable instrument in terms of length, content and target audience to measure substance use. Thus, we created eight questions regarding the influence of a bereavement on students' substance use, with a distinction being made between the use of alcohol and drugs. Participants had to answer one question that asked if they had ever used alcohol and one question that asked if they had ever used drugs. We defined the use of drugs as: “(1) the use of prescription or over-the-counter drugs that exceed the prescribed/recommended dose, or (2) the use of illicit drugs.” When participants answered ‘yes’, they received three statements about their alcohol use, and three similar statements about their drug use with regard to their bereavement experience: “Alcohol (drugs) helps me cope with difficult moments”; “I used more alcohol (drugs) after my loved one died”; “The death of my loved one still affects my alcohol (drug) use”. Participants were asked to indicate on a four-point Likert-type scale, ranging from “1. Strongly disagree” to “4. Strongly agree”, to what extent these statements were applicable to them.

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) consists of 12 items divided into 3 subscales: significant other, family, and friends (for example, #8: “I can talk about my problems with my family”). Participants rated each statement on a seven-point Likert-type scale ranging from “1. Very strongly disagree” to “7. Very strongly agree”, based on the past two weeks. Item scores are averaged to become the
total scores. Higher scores indicate more perceived social support (range 1-7). The Cronbach's alpha coefficient of the total scale in our sample was .91.

The Adolescent Grief Inventory (AGI), validated for populations aged 12 to 28 years (Andriessen et al., 2018), consists of 40 items and six factors: sadness, self-blame, anxiety and self-harm, shock, anger and betrayal, and sense of peace (for example, #15: “I was angry at myself”). Participants rated each item on a five-point Likert-type scale ranging from “1. Not at all” to “5. Extremely”, indicating how much the statements applied to them during the past month. Item scores are averaged to become the total score. Higher scores indicate stronger grief reactions (range 1-5). The Cronbach's alpha coefficient was .89 for the total scale.

The Dutch version of The Depression Anxiety Stress Scale 21 (DASS-21; de Beurs et al., 2001) consists of 21 items and three subscales: depression, anxiety, and stress (for example, #6: “I tended to over-react to situations”). Participants responded to the statements on a four-point Likert-type scale ranging from “0. Never” to “3. Almost always”, indicating how much the statements applied to them during the past week. Scores are summed. Higher scores indicate more mental health distress (range 0-63). The Cronbach's alpha coefficient for the total scale was .94.

The Personal Growth subscale of The Hogan Grief Reaction Checklist (HGRC-PG; Hogan et al., 2010) includes 12 items (for example, #4 “I have more compassion for others”). Participants rated each item on a five-point Likert-type scale ranging from “1. Does not describe me very well” to “5. Describes me very well”, regarding how much it applied to them during the past two weeks. Scores are summed and higher scores indicate more personal growth (range 12-60). The Cronbach's alpha coefficient in our sample was .85.
We adhered to the four steps outlined by the World Health Organization for translating the HGRC-PG, AGI, and MSPSS: (1) forward translation, (2) expert panel consultation, (3) backward translation and (4) pre-testing of the translated scale (WHO, n.d.).

Data analyses

All data were uploaded in SPSS 27 (IBM Corp, 2020). First, we analysed the socio-demographic characteristics of the participants descriptively, and we used frequencies and percentages to analyse the reported influence of losing a love one on students' substance use. Next, we explored the associations between substance use and social support, grief, mental health distress and personal growth. However, we found that the assumptions of normality and homoscedasticity were violated in the data about substance use. Log transformation was experimented with, but the homoscedasticity assumption remained violated. Hence, we used the Kendall’s rank correlation coefficient, a distribution-free measure of correlations suitable for ordinal data, and ordinal regressions to investigate the associations between the variables.

Results

A total of 1,390 people started the survey. Of these, 488 people were excluded based on the inclusion criteria (mostly based on time since death), and 236 others due to missing data. The final sample included 666 participants ($M_{age} = 21.42$, $SD = 1.97$, range 18 – 28 years). Most participants (85%) were female. The participants scored on average $M = 5.35$ ($SD = 1.09$) on the MSPSS (social support), $M = 2.42$ ($SD = .56$) on the AGI (grief), $M = 18.56$ ($SD = 13.84$) on the DASS-21 (mental distress), and $M = 38.07$ ($SD = 8.63$) on the
HGRC-PG (personal growth). Participants’ scores on the study instruments were comparable with what has been reported in other studies involving community samples.

Of the 666 participants, 78 (11.7%) participants reported that they have never consumed alcohol, and 588 (88.3%) reported to have consumed alcohol. About 24% ($n = 144$) of the participants who had consumed alcohol indicated that alcohol helped them to cope with difficult moments. Also, 16.2% ($n = 95$) reported having used more alcohol after the death of their loved one. Around 13.4% ($n = 31$) of the participants, reported that the death of a loved one still affected their alcohol consumption.

In addition, 31% ($n = 206$) of the participants reported that they had used drugs at some point in their lives. Of these participants, 21% ($n = 43$) indicated that drugs helped them cope with difficult moments. In addition, 18.5% ($n = 38$) indicated that they had used more drugs after the death of a loved one and 5.3% ($n = 11$) felt that the death still affected their drug use.

The correlation analysis (see Table 1) found a significant positive association between grief (AGI), mental health distress (DASS-21) and the six statements regarding substance use. Social support (MSPSS) has a significant association with two statements: “I used more alcohol after my loved one died” and “The death of my loved one still affects my alcohol use”. Personal growth was not significantly related to the substance use statements.

**Table 1**

*Kendall’s Rank Correlation Coefficient Between Statements About Substance Use and Grieving, Mental Health Distress, Personal Growth, and Social Support*

<table>
<thead>
<tr>
<th>Variabel</th>
<th>AGI</th>
<th>DASS-21</th>
<th>Hogan PG</th>
<th>MSPSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol helps me cope with difficult moments.</td>
<td>.125*</td>
<td>.127**</td>
<td>-.002</td>
<td>-.057</td>
</tr>
</tbody>
</table>
I used more alcohol after my loved one died. \( \quad .189^{**} \quad .202^{**} \quad -.021 \quad -.090^{**} \)

The death of my loved one still affects my alcohol use. \( \quad .214^{**} \quad .191^{**} \quad -.027 \quad -.089^{**} \)

Drugs help me cope with difficult moments. \( \quad .138^{*} \quad .210^{**} \quad -.008 \quad -.025 \)

I used more drugs after my loved one died. \( \quad .259^{**} \quad .240^{**} \quad .035 \quad -.089 \)

The death of my loved one still affects my drug use. \( \quad .217^{**} \quad .261^{**} \quad .007 \quad -.010 \)

Note. AGI = The Adolescent Grief Inventory (Andriessen et al., 2018), DASS-21 = The Depression Anxiety Stress Scale 21 (de Beurs et al., 2001), PG = personal growth, MSPSS = Multidimensional Scale of Perceived Social Support (Zimet et al., 1988), * Correlation is significant at the 0.05 level, ** Correlation is significant at the 0.01 level.

For each of the six statements, we conducted an ordinal regression analysis with the variables that significantly correlated with each statement as predictors. Gender and age were included as control variables (Tables 2 and 3). No included variable significantly predicted the statement "Alcohol helps me cope with difficult moments". Grief (AGI) (Wald \( \chi^2 = 10.012, p = .002, \text{odds ratio} = 1.866, 95\% \text{CI} [1.268, 2.747]) and mental health distress (DASS-21) (Wald \( \chi^2 = 6.048, p = .014, \text{odds ratio} = 1.020, 95\% \text{CI} [1.004, 1.037]) significantly predicted the statement “I used more alcohol after my loved one died”. This means that students consumed more alcohol after losing their loved one when they experienced strong grief-related feelings and high levels of mental health distress. Grief (AGI) (Wald \( \chi^2 = 14.599, p = .000, \text{odds ratio} = 2.334, 95\% \text{CI} [1.511, 3.604]) significantly predicted the statement “The death of my loved one still affects my alcohol use”. This finding suggests that the more grief participants experienced, the more impact the death still had on their alcohol consumption.

Mental health distress (DASS-21) (Wald \( \chi^2 = 9.179, p = .002, \text{odds ratio} = 1.040, 95\% \text{CI} [1.014 to 1.067]) significantly predicted the statement “Drugs help me cope with difficult
moments”. Thus, participants reported that drugs helped them coping with difficult moments when they experienced high levels of mental health distress. Grief (AGI) (Wald $\chi^2 = 7.151$, $p = .007$, odds ratio = 2.472, 95% CI [1.273, 4.800]) significantly predicted the statement “I used more drugs after my loved one died.”. This means that the more grief a participant experienced, the more drugs they used after the death of their loved one. Finally, mental health distress (DASS-21) (Wald $\chi^2 = 5.168$, $p = .023$, odds ratio = 1.035, 95% CI [1.005, 1.067]) was a significant predictor for the statement “The death of my loved one still affects my drug use”. This means that the more mental health distress a participant experienced, the greater the impact their loss still had on their drug use.
### Table 2

**Hierarchical Regression with Gender, Age, Grieving, Mental Health Distress and Social Support as Predictors of Alcohol Use**

<table>
<thead>
<tr>
<th></th>
<th>Alcohol helps me cope with difficult moments.</th>
<th>I used more alcohol after my loved one died.</th>
<th>The death of my loved one still affects my alcohol use.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Wald χ²</td>
<td>Odds ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.152</td>
<td>.492</td>
<td>1.164</td>
</tr>
<tr>
<td>Age</td>
<td>-.022</td>
<td>.334</td>
<td>.978</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.026</td>
<td>.014</td>
<td>1.027</td>
</tr>
<tr>
<td>Age</td>
<td>.001</td>
<td>.000</td>
<td>1.001</td>
</tr>
<tr>
<td>DASS-21</td>
<td>.014</td>
<td>3.443</td>
<td>1.014</td>
</tr>
<tr>
<td>MSPSS</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

**Note.** AGI = The Adolescent Grief Inventory (Andriessen et al., 2018), DASS-21 = The Depression Anxiety Stress Scale 21 (de Beurs et al., 2001), MSPSS = Multidimensional Scale of Perceived Social Support (Zimet et al., 1988)

* Significant at the 0.05 level

** Significant at the 0.01 level
Table 3

Hierarchical Regression with Gender, Age, Grieving, Mental Health Distress and Social Support as Predictors of Drug Use

<table>
<thead>
<tr>
<th></th>
<th>Drugs help me cope with difficult moments.</th>
<th>I used more drugs after my loved one died.</th>
<th>The death of my loved one still affects my drug use.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Wald $\chi^2$</td>
<td>Odds ratio</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.167</td>
<td>.250</td>
<td>1.181</td>
</tr>
<tr>
<td>Age</td>
<td>-.011</td>
<td>.024</td>
<td>.989</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.005</td>
<td>.000</td>
<td>1.005</td>
</tr>
<tr>
<td>Age</td>
<td>-.001</td>
<td>.000</td>
<td>.999</td>
</tr>
<tr>
<td>AGI</td>
<td>-.001</td>
<td>.000</td>
<td>.999</td>
</tr>
<tr>
<td>DASS-21</td>
<td>.040</td>
<td>9.179**</td>
<td>1.040</td>
</tr>
</tbody>
</table>

Noot. AGI = The Adolescent Grief Inventory (Andriessen et al., 2018), DASS-21 = The Depression Anxiety Stress Scale 21 (de Beurs et al., 2001)

* Significant at the 0.05 level

** Significant at the 0.01 level
Discussion

The study examined variables associated with alcohol and drug use in bereaved students. The study found that some students use substances as a coping mechanism. A minority of students in our study indicated that the death of their loved one affected their substance use. Social support seems to have less of an influence on substance use after losing a loved one in students than we expected, which may be due to alcohol and other substance use being part of students’ culture (Eng et al., 2019; Osberg et al., 2010). However, the finding is in line with those of Pitman and colleagues (2020) who reported that most of their participants did not change their substance use after the death of a loved one.

Feelings of grief and mental health distress played a significant role in the increased use of substances in our sample. Previous research found that young adults, including students, who experience a high level of bereavement-related mental health distress may be more likely to engage in maladaptive coping behaviours, such as substance use, than their peers who experience less grief and mental health distress (Eddinger et al., 2019). It is possible that other students’ use also increased after their loved one’s death, but they did not attribute this to the death. Eng and colleagues (2019) found that students sometimes attribute their increased use to external factors such as the student culture they belong to, where substance abuse is considered socially acceptable.

Some students indicated that they still experience the influence of the death of their loved one on their alcohol and drug use after more than 6 months. Eng and colleagues (2019) reported that young adults used substances as a coping strategy in which alcohol or drugs were used to relax, sleep and isolate themselves from their own emotions. This use declined over time as the benefits no longer outweigh the harm associated with excessive
substance use (Drabwell et al., 2020; Eng et al., 2019). Bartik and colleagues (2013) also found that alcohol abuse was very common in the period between the death and funeral in young adults who lost a friend to suicide. However, different from our results, in most participants in the study by Bartik and colleagues (2013) this abuse persisted for a longer period of time.

Based on a study by McDiarmid and colleagues (2017), we had expected a significant negative association between substance use and personal growth, but this association was not found. A possible explanation is that the use of substances can hinder the self-reflection necessary to achieve personal or posttraumatic growth (Milam et al., 2004).

The study findings should be considered within certain limitations. We conducted a cross-sectional study and relied on self-reported data, which may entail a recall bias. Still, we recruited a large sample with participants from different institutions. Future research could adopt longitudinal designs to measure the bereaved students’ substance use over time. Our study was also part of a larger project which limited the number of questions we could ask about substance use. The data collection of this study coincided with the onset of the COVID-19 pandemic. This may have had a negative impact on our participants’ mental well-being and could have led to experiencing less social support due to lockdowns and other restrictions.

The findings indicate that mental health professionals should understand the influence of the death of a loved one on students’ substance use. When working with grieving students, it is important to ask them about their use so early interventions can take place. Psychoeducation about substance use and healthy coping, and concerted health promotion involving peers, university and family environment (Kristjansson et al., 2020) can
prevent students from using substances as a coping mechanism. Even though social support
did not seem to have a significant influence on substance use in our study, other literature
indicates the importance of social support on student’s mental health (Birtel et al., 2017;
Cousins et al., 2017). Social support can help bereaved students to achieve personal or
posttraumatic growth after the death of their loved one (Balk, 2008; Cohen & Samp, 2018).
It can also help decrease negative feelings, such as feelings of grief and mental health
distress (Balk et al., 2010). Mental health professionals may also need to help family
members and friends to support students who struggle with their grief and substance use.

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