The link between family identification, loneliness, and symptom severity in people with eating disorders

Niamh McNamara, Juliet R. H. Wakefield[1a], Tegan Cruwys[b], Adam Potter[a], Beth Jones[a] & Sara McDevitt[c,d]

[a]Department of Psychology, Nottingham Trent University, UK

[b]Research School of Psychology, The Australian National University, Australia

[c]Department of Psychiatry, University College Cork, Ireland

[d]Consultant Child & Adolescent Psychiatrist, Health Services Executive, Ireland

Acknowledgements

The authors wish to thank the following for their support: Bodywhys; Health Service Executive National Clinical Programme for Eating Disorders, Ireland; SpunOut.ie; Eating Disorders Association Northern Ireland; The Laurence Trust; MQ Mental Health UK; Anorexia & Bulimia Care, UK; First Steps ED, UK; MaleVoicED; South Yorkshire Eating Disorders Association, UK; National Eating Disorders Association USA; F.E.A.S.T.; Eating Disorders Research Center, USA.

Funding

Study 1 was funded by a grant from the Irish National Office for Suicide Prevention.

Conflict of Interest

The authors do not have any conflicts of interest to declare.

Data Availability Statement

The data are available from the corresponding author upon reasonable request.

[1] Corresponding author: Dr Juliet Ruth Helen Wakefield, Department of Psychology, Nottingham Trent University, 50 Shakespeare Street, Nottingham, NG1 4FQ, UK. Email: juliet.wakefield@ntu.ac.uk Tel.: 0044 15 8485518.

Abstract

Families play an important role in eating disorder (ED) recovery, and it has been suggested that they can ameliorate the loneliness associated with EDs. However, the psychological mechanisms through which this occurs have yet to be systematically explored. Utilising the Social Identity Approach to Health, we explore whether identification with one's family group positively predicts health in people with self-reported EDs due to its potential to reduce feelings of loneliness. We investigate this in two online questionnaire studies (N=82; N=234), one conducted before the COVID-19 pandemic and the second conducted in its early stages. In both studies, mediation analyses demonstrated that family identification was associated with fewer and less severe self-reported ED symptoms, and in the context of the COVID-19 pandemic, reduced self-reported ED-related impact and anxiety. In both studies, these benefits were suggestive of a protective role of family identification against loneliness. Our findings provide a framework for understanding in general why families can be considered an important social recovery resource and should be included in the treatment of adult EDs. Please refer to the Supplementary Material section to find this article's Community and Social Impact Statement.

Keywords: Eating Disorders; Social Identification; Loneliness; COVID-19; Family Identification

Introduction

Previous studies have indicated that the relationship between loneliness and eating disorders (ED) is bi-directional. Those who are lonely are at heightened risk of developing EDs, and loneliness subsequently exacerbates ED symptoms (Harney et al., 2014; Richardson et al., 2017). This implies that the psychological health of people with EDs (PWED) is intricately linked to the degree to which they are socially connected. Although loneliness is a significant issue for PWED, the complex relationship between social connections, loneliness, and ED symptoms remains relatively under-explored. This is problematic, especially given the increased urgency for such investigations during the COVID-19 pandemic. PWED, their families, and clinicians have identified that virus-related social distancing has the capacity to exacerbate ED symptoms, given it increases the likelihood of loneliness (Rodgers et al., 2020; Fernández-Aranda et al., 2020).

It has been suggested that families can ameliorate ED-associated loneliness, and help PWED to tackle social isolation (Treasure & Palazzo Nazar, 2016). However, the psychological mechanisms through which this occurs have yet to be systematically explored. We investigate this in this paper. Specifically, utilising the Social Identity Approach to Health (Haslam et al., 2018), we explore whether identification with one's family group – an important social group for ED recovery, and one that was most likely to be accessible during social distancing restrictions – positively predicts PWED's health/wellbeing due to its capacity to reduce loneliness.

Social Isolation, Loneliness, and EDs

While *social isolation* refers to a scarcity of (objective) social ties, *loneliness* is a stressful emotional state whereby one perceives that their social network is deficient (Perlman & Peplau, 1981). The effects of loneliness on mortality risk are comparable to well-

established lifestyle and environmental factors, such as smoking (Holt-Lunstad et al., 2015). Social isolation and loneliness can be especially problematic for PWED, who often find it difficult to develop and maintain social connections. Poor social functioning, interpersonal difficulties, and a tendency to appraise social environments as threatening contribute to distressing social experiences (Cardi et al., 2018; Levine, 2012). PWED also tend to have small and low-quality social networks, which consist almost solely of family members (Leonidas & dos Santos, 2014; Patel et al., 2016). Loneliness is especially problematic during EDs' acute phases (Levine, 2012; Westwood et al., 2016). Moreover, during recovery, loneliness can precede a return to disordered behaviours (Cardi et al., 2018; Cockell et al., 2004).

Loneliness associated with already-impoverished social networks shrinking might underlie symptom exacerbation during COVID-19 restrictions (Rodgers et al., 2020). PWED and their families identified isolation as a key concern in the pandemic's early stages; in particular, carers saw the potential for restrictions to negatively impact family dynamics (Fernández-Aranda et al., 2020). However, other research suggested that some carers felt that increased time at home allowed them to provide more support and spend more time together as a family (Clark Bryan et al., 2020). Similarly, some PWED reported that a sense of connection with family and friends was a positive change (Termorshuizen et al., 2020). While this increased connectivity with friends in undoubtedly an important issue for PWED's wellbeing, we have chosen to focus on family identification in the present study, due to it being reported as being one of (if not the) most important groups for PWED (e.g., Cockell et al., 2004), and because the periods COVID-19 lockdown will have likely led to family being the main group with which PWED interact.

These issues are not only relevant during the COVID-19 pandemic: they are also core elements of PWED's *social recovery* (Patel et al., 2016). Understanding how to support

social recovery requires a theoretical framework that can specify the mechanisms through which social relationships protect health. The Social Identity Approach to Health (SIAH; Haslam et al., 2018) can offer such a framework.

Group Memberships, Family, and ED Recovery

Mirroring the distinction between social isolation and loneliness, the SIAH argues that it is not our *objective* group memberships that account for the robust positive relationship between social connectedness and health (Haslam et al., 2018). Instead, it is the psychological experience of group membership, or *social identification*, that is crucial (Haslam et al., 2018). Identifying as a group member informs our *self-definition*, which is critical to a group's health-enhancing potential, as it unlocks the psychological resources provided by the group, such as perceptions of belonging, personal control, and social support (Greenaway et al., 2015). For example, it has been found that identification with university friendship groups predicted lower levels of depression, anxiety, and paranoia by decreasing feelings of loneliness (McIntyre et al., 2018).

Those in recovery from ED often name family as a vital source of support, with some citing the desire to repair family relationships as a catalyst for recovery (Cockell et al., 2004; Linville et al., 2012). Historically, family dysfunction was blamed for the emergence of EDs, however this notion of the 'psychosomatic family' has been replaced with the view that the family is a key resource for recovery (Hibbs et al., 2015; Holtom-Viesel & Allan, 2014). PWED who have positive perceptions of family functioning have better outcomes (Holtom-Viesel & Allan, 2014). While it is recognised that EDs can disrupt family functioning, family support is crucial for symptom improvement and the development of a positive self-concept (Leonidas & dos Santos, 2014).

Family involvement is a central component of most treatments for EDs that have a strong evidence base (such as family-based therapy, e.g., Couturier et al., 2012), as well as being a powerful source of support (McMaster et al., 2004). However, given the often-lengthy duration of EDs, many PWED live with (or remain heavily dependent on) their family well into adulthood (Treasure & Palazzo Nazar, 2016; Treasure et al., 2005). Despite this, families are often not formally included in adult ED treatment (Boland et al., 2019), which family members perceive as impacting negatively on their lives (Hillege et al., 2006). Recent evidence suggests that including couple-based interventions in treatment of adult Anorexia Nervosa is acceptable to patients and may be more effective in promoting recovery as well as relationship adjustment than individual therapeutic interventions (Baucom et al., 2017). While the inclusion of partners in formal interventions looks promising, we propose that the appropriate psychological process to focus on is family *identification,* which explores the extent to which a person feels a subjective sense of belonging to their family (e.g., Sani et al., 2012), thus creating a context in which the family group collectively copes with an issue (e.g., an ED) that affects all members.

Previous work (Sani et al., 2012) showed that family identification is conceptually separate from the extent of one's contact with family members, and that it is a stronger predictor of mental health than family contact. While it is the case that group identification can create a 'virtuous cycle', where social support and other health-benefitting resources unlocked by group identification in turn promote greater group identification (Miller et al., 2017), the SIAH posits that group identification is the initial catalyst for these processes (Haslam et al., 2018). The unique contribution of this paper is thus to explore this key idea of family identification (and the psychological processes it predicts) in PWED. Outside the ED context, identification with family has been associated with positive mental health outcomes for adolescents (Miller et al., 2017), those affected by financial distress (Stevenson et al.,

2020), and those affected by intimate partner violence (Naughton et al., 2015). However, the degree to which family identification can reduce loneliness (and whether this is one of the mechanisms for its health benefits) has yet to be explored more generally and in PWED: a gap that the present study aims to address.

The Current Research

We report two cross-sectional studies investigating the social psychological mechanisms through which family identification predicts health in PWED. We predicted that family identification would be associated with reduced ED symptom severity and this relationship would be mediated via reduced feelings of loneliness. Study 1 examined these phenomena pre-COVID among PWED who were receiving (or had recently received) treatment.

Study 2 was conducted during the COVID-19 pandemic's early stages. We predicted that loneliness associated with social distancing would exacerbate ED symptoms and increase anxiety. We hypothesise this because ED symptoms have been found to predict anxiety (e.g., Dreiberg et al., 2019). We proposed a serial mediation model, such that family identification predicted reduced feelings of loneliness, which in turn predicted reduced ED-related impact of COVID-19, which in turn predicted better health. We hypothesised that reduced feelings of loneliness will predict reduced ED-related impact of COVID-19 because it has been well-established within the SIAH perspective (e.g., Haslam et al., 2018) that our social group memberships provide us with resources needed to manage life's challenges. Thus, experiencing low levels of loneliness (which itself is predicted by feeling connected to one's family) means one is likely to have the social support needed to cope with the negative impacts of COVID restrictions. Finally, we hypothesised that reduced ED-related impact of COVID-19 will predict reduced anxiety and ED symptom severity, because participants who

experience fewer negative impacts during COVID-19 are likely to feel they can cope better and are thus less likely to engage in disordered eating. Ethical approval for both studies was granted by the first author's institutional Research Ethics Committee.

Study 1

Method

Participants and Procedure

Study 1 took place during July-October 2019 as part of an investigation into Irish ED treatment experiences. 82 participants (70 females, 1 male, 1 transgender, 1 non-binary, 9 not reported; M_{age} = 28.95 years, *SD* = 8.33, *age range*=18-62) completed an online questionnaire through the Bodywhys (The Eating Disorders Association of Ireland) social media account and website. Participants completed an electronic consent form, confirming age and participation eligibility. Of those who reported their living arrangements, 38% lived with parents, 19% with a partner, 18% lived alone, 16% with other family members, and 8% with friends. 79% self-reported as receiving a formal diagnosis; the most common was Anorexia Nervosa (AN; 50%) followed by Bulimia Nervosa (BN; 19%), Combination AN/BN (9%), Other Specified Feeding or Eating Disorder (OSFED; 9%), Multiple diagnoses (6%), Binge Eating Disorder (BED; 3%), Avoidant/Restrictive Food Intake Disorder (ARFID; 2%), and Pica (2%). Of those who indicated their treatment status (n=78), 62% were in treatment, 24% had chosen to leave treatment, and 14% considered themselves fully recovered and were no longer in treatment.

Measures

Family identification was measured with the Single Item Social Identification Scale (SISI; Postmes et al., 2013): "I identify with members of my family" on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). SISI has been found to have comparable reliability and validity to longer scales (Reysen et al., 2013).

Loneliness was measured with the Three-Item Loneliness Scale (Hughes et al., 2004). Participants rated their agreement with each statement (e.g., "How often do you feel that you lack companionship?") on a scale ranging from 1 (*hardly ever*) to 3 (*often*). As per author instructions, the sum of the items was found, with higher values indicating higher loneliness. In the general population, this measure has been found to be reliable (α=.72) and possesses both convergent and discriminant validity (Hughes et al., 2004). Alphas for the present study can be found in Table 1.

ED symptom severity was measured with the sixteen-item version of the Eating Attitudes Scale (EAT-16; McLaughlin, 2014). Participants rated their agreement with each item in relation to the last month (e.g., "I am terrified about being overweight") on a scale ranging from 1 (*never*) to 6 (*always*). As per author instructions, the sum of the items was found, with higher values indicating more negative eating-related attitudes.

Finally, demographic information was recorded, including *age*, *gender*, whether the participant had received a *formal ED diagnosis*, and *self-reported diagnosis*.

Results

Descriptive Statistics and Correlations

Descriptives and correlations can be found in Table 1. PWED who identified strongly with their family tended to feel less lonely (p = .007) and have fewer negative eating-related thoughts and behaviours (p = .03). These patterns remained when age, gender, and diagnosis (yes/no) were controlled for via partial correlations.

[Table 1]

Mediation Analysis

The mediation model was tested using Model 4 in version 3.4 of Hayes' (2017) PROCESS macro (see Figure 1). Analysis involved 5,000 bootstrapping samples with 95%

confidence intervals (LLCI/ULCI), using the percentile method, and controlled for gender (female/not female), age, and diagnosis (yes/no). All reported coefficients are unstandardized.

There was a significant indirect effect of family identification on symptom severity though loneliness, *Effect* = -1.23, *Boot SE* = .56, *Boot LLCI* = -2.49, *Boot ULCI* = - .31. Family identification was a negative predictor of loneliness, *Coeff* = -.33, *SE* = .12, *t* = -2.75, *p* = .008, *LLCI* = -.56, *ULCI* = -.09, while loneliness was a positive predictor of symptom severity, *Coeff* = 3.78, *SE* = 1.05, *t* = 3.60, *p* = .0006, *LLCI*= 1.68, *ULCI* = 5.87. The total effect of family identification on symptom severity was negative and significant, *Effect* = -2.75, *SE* = 1.10, *t* = -2.51, *p* = .01, *LLCI* = -4.94, *ULCI* = -.56, and this became non-significant when loneliness was accounted for (direct effect), *Effect* = -1.52, *SE* = 1.07, *t* = -1.42, *p* = .16, *LLCI* = -3.65, *ULCI* = .61, indicating full mediation. The R^2 for the model was .29.

[Figure 1]

Discussion

As hypothesised, family identification was significantly negatively associated with ED symptom severity. We observed our predicted mediation model, namely, strength of family identification was negatively associated with loneliness, which itself was positively associated with ED symptom severity. This suggests that family identification may exert its benefits for PWED by reducing loneliness. While we cannot draw firm conclusions on the directionality of the relationships, our results provide initial evidence for the association between the study variables. These are consistent with recent investigations of the association between group identification, loneliness, and health (e.g., McNamara et al., 2021); however, this is the first study to provide evidence for this model for ED symptomatology.

Nonetheless, our sample size was relatively small and restricted to those in receipt of treatment (or those who had recently received treatment). This might have incorporated family support, which could indirectly strengthen family identification. Our aims for Study 2 were to replicate this model with a larger sample representing a broader spectrum of illness and explore whether it would hold during a time when COVID-19 restrictions intensified the risk of loneliness for PWED.

Study 2

Study 2 was conducted between April-June 2020. From March 2020, individuals in the UK, Ireland, and USA were only allowed to leave home if they were a keyworker, or for exercise, essential shopping, and medicine. In the UK and Ireland, these regulations were enacted on the 26th and 27th March 2020, respectively. In mid-May, the UK and Irish governments announced a roadmap to ease restrictions that would initially allow people to mix with others outside their household (GOV.UK, 2020; gov.ie, 2020). In the USA there was variability (from 15th March - April 6th) across states in restriction implementation. Restrictions were eased across the states between April 27th-June 11th. Like the UK and Ireland, the initial ease in restrictions allowed for mixing outside the household.

We posited that these restrictions would exacerbate ED symptoms, due to the specific ED-related concerns generated (e.g., food scarcity talk, reduction in support), as well as associated feelings of loneliness (e.g., Rodgers et al., 2020). These restrictions may also increase anxiety among PWED (Fernández-Aranda et al., 2020) and so we were also interested in this as an outcome. Our aim for this study was to explore whether family identification was an important protective factor for PWED in the context of these stressors. We proposed a serial mediation model, such that family identification predicts reduced

feelings of loneliness, which in turn predicts reduced ED-related impact of COVID-19, which in turn predicts reduced ED symptom severity and reduced anxiety.

Method

Participants and Procedure

234 participants (186 females, 8 males, 2 non-binary, 1 prefer not to say, 1 self-defined and 36 not reported; M_{age} = 28.92 years, *SD* = 8.95, *age range*= 18-77) who self-reported as living with or recovered from EDs participated in the online questionnaire. Participants were recruited through advertisements on social media accounts and on the websites of mental health and ED charities in the UK, Ireland, and the USA. Participants completed an electronic consent form, confirming age and participation eligibility. Most participants were from UK (34%), USA (23%) and Ireland (15%). Of those who reported their living circumstances, 71% lived with family (parents/partner or spouse/other family members), 20% lived alone, and 9% with friends.

Most participants (67%) self-reported receiving an ED diagnosis; the most common was AN (52%), followed by OFSED (13%), Combination AN/BN (11%), BN (8%), BED (5%), ARFID (2%), Orthorexia (1%), Overeating (1%), and other disorders (7%), which included individual participants reporting Anorexia Athletica, Anorexia Binge Purge Sub-Type, Anorexia with Exercise Addiction, Atypical Anorexia, non-purging BN, and multiple diagnoses. Of those who indicated their treatment status, 46% were receiving treatment, 20% had chosen to leave treatment, 20% had only contacted their General Practitioner about their concerns, and 14% identified as fully recovered and no longer in treatment. Most had not contracted COVID-19 (77%). Seventeen participants reported having suspected COVID-19, with one reporting a positive test.

Measures

Demographic information, *Family identification* and *loneliness* were measured as in Study 1. Alphas can be found in Table 2.

Anxiety was measured with the seven-item anxiety sub-scale of the Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1995). Participants rated symptom frequency in the previous seven days (e.g., "I was aware of dryness of my mouth") using a scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me most of the time*). As per author instructions, the sum of the items was calculated and multiplied by two, with higher values indicating stronger anxiety symptoms.

Eating disorder symptom severity was measured with Gideon et al.'s (2016) twelve-item Eating Disorder Examination Questionnaire-Short Form (EDE-QS). Participants rated symptom frequency in the previous seven days (e.g., "Have you been deliberately trying to limit the amount of food you eat to influence your weight or shape (whether or not you have succeeded))?" on a scale ranging from 0 (*zero days*) to 3 (*6-7 days*). As per author instructions, the sum of the items was found, with higher values indicating higher levels of eating disorder symptoms.

Eating disorder-related impact of COVID-19 was measured with a novel nine-item scale that was created for the purposes of this study. Participants were asked to think about the previous two weeks, and to rate their agreement with each item on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*): "I am worried about being able to access food items that form part of my meal plan"; "I am worried that an item of food is or will become limited"; "I am worried about limitations being placed on how often I can exercise"; "I am worried about limitations being placed on where I can exercise"; "Places I have sought support from (e.g., support groups, helplines) are shut down during the pandemic"; "I have lost vital sources of support during the crisis"; "I have difficulty accessing my treatment team

during the pandemic"; "I have difficulty accessing hospital or health services during the pandemic"; "Spending more time with others at home is stressful for me". The mean of the items was found, with higher values indicating greater impact. Factor analysis revealed that all items loaded onto a factor with an eigenvalue of 3.37 (loadings ranged from .36 to .76).

Results

Descriptive Statistics and Correlations

Descriptives and correlations can be found in Table 2. Family identification was below the mid-point, which is substantially lower than typically observed in non-clinical samples (e.g., Stevenson et al., 2020). Compared to population norms, loneliness scores were elevated, and anxiety scores were in the severe clinical range. PWED who identified strongly with their family tended to feel less lonely ($p < .001$), have fewer eating disorder symptoms ($p < .001$), felt marginally less anxious ($p = .053$), and felt marginally less impact of COVID-19 ($p = .051$). These patterns remained when age, gender (female/not female), and diagnosis (yes/no) were controlled for via partial correlations.

[Table 2]

Mediation Analyses

Serial mediation models were tested using Model 6 in version 3.4 of Hayes' (2017) PROCESS macro (see Figures 2 and 3). Age, gender, and official diagnosis were included as covariates.

Loneliness and ED-related Impact of COVID-19 Mediating the Relationship Between Family Identification and Anxiety

There was a significant indirect effect of family identification on anxiety though loneliness and ED-related impact of COVID-19, *Effect* = -.15, *Boot SE* = .07, *Boot LLCI* = -

.32, *Boot ULCI* = -.04. Family identification was a negative predictor of loneliness, *Coeff* = -.29, *SE* = .07, *t* = -4.45, *p* < .001, *LLCI* = -.43, *ULCI* = -.16, while loneliness was a positive predictor of ED-related impact of COVID-19, *Coeff* = .23, *SE* = .04, *t* = 5.29, *p* < .001, *LLCI*= .15, *ULCI* = .32, and ED-related impact of COVID-19 was a positive predictor of anxiety, *Coeff* = 2.14, *SE* = .63, *t* = 3.42, *p* = .0008, *LLCI*= .90, *ULCI* = 3.37. The total effect of family identification on anxiety was negative and significant, *Effect* = -.82, *SE* = .38, *t* = -2.16, *p* = .03, *LLCI* = -1.57, *ULCI* = -.07, and this became non-significant when loneliness and ED-related impact of COVID-19 were accounted for (direct effect), *Effect* = -.22, *SE* = .36, *t* = -.60, *p* = .55, *LLCI* = -.94, *ULCI* = .50, indicating full mediation. The R^2 for the model was .24.

[Figure 2]

Loneliness and ED-Related Impact of COVID-19 Mediating the Relationship Between Family Identification and ED Symptom Severity

There was a significant indirect effect of family identification on ED symptom severity though loneliness and ED-related impact of COVID-19, *Effect* = -.11, *Boot SE* = .05, *Boot LLCI* = -.23, *Boot ULCI* = -.03. Family identification was a negative predictor of loneliness, *Coeff* = -.29, *SE* = .07, *t* = -4.38, *p* < .001, *LLCI* = -.42, *ULCI* = -.16, while loneliness was a positive predictor of ED-related impact of COVID-19, *Coeff* = .23, *SE* = .05, *t* = 5.18, *p* < .001, *LLCI*= .15, *ULCI* = .32, and ED-related impact of COVID-19 was a positive predictor of ED symptom severity, *Coeff* = 1.58, *SE* = .46, *t* = 3.40, *p* = .0008, *LLCI*= .66, *ULCI* = 2.49. The total effect of family identification on ED symptom severity was negative and significant, *Effect* = -1.33, *SE* = .29, *t* = -4.62, *p* < .001, *LLCI* = -1.89, *ULCI* = -.76, and this became weaker when loneliness and ED-related impact of COVID-19 were

accounted for (direct effect), *Effect* = -.92, *SE* = .28, *t* = -3.29, *p* = .001, *LLCI* = -1.47, *ULCI* = -.37, indicating partial mediation. The R^2 for the model was .24.

[Figure 3]

To test whether participants' living arrangements changed the patterning of the results, we created a binary variable (lives alone vs. lives with others). This variable correlated with loneliness (*r* = -.21, *p* = .003) but not with any of the other variables (*p*s > .5). The patterning of both serial mediation models remained unchanged when it was included as an additional covariate.

Discussion

Study 2 replicated Study 1 findings in a larger sample. Once again, family identification was negatively associated with loneliness and ED symptom severity. There have been fears that the COVID-19 pandemic may increase loneliness, and hence worsen ED symptoms (Fernández-Aranda et al., 2020). While this may be true, Study 2 found that family identification was associated with reductions in ED symptom severity and anxiety during the early stages of the COVID-19 pandemic. This was possible through its capacity to mitigate against loneliness and in turn, predict reductions in fears of the ED-related impact of social distancing measures. These results finding suggest that family identification may play a key protective role and shed light on potentially *how and why* family is protective.

General Discussion

Recent years have seen increasing recognition of the valuable role social connections play in ED recovery. Families are an important *social recovery resource*, with the potential to ameliorate experiences of loneliness (Treasure & Palazzo Nazar, 2016), alongside providing practical and emotional support (Reyes-Rodríguez et al., 2019). However, prior research has lacked an established theoretical framework to explain *why* and *how* family group

membership acts as a protective factor. The finding that family identification ameliorates experiences of loneliness accords with a body of SIAH research beyond the ED context (e.g., Wakefield et al., 2020). In this article, we demonstrate the utility of the SIAH (Haslam et al., 2018) as a framework for understanding a novel pathway through which the health benefits associated with family identification may occur.

Implications

Our work is the first to provide evidence that family identification is positively associated with mental health in PWED. Across two studies, we demonstrated that family identification was negatively associated with ED symptom severity. We also illustrated that family may be a protective factor in the context of an extreme event when the group is collectively under stress. We saw evidence that the COVID-19 pandemic is difficult for PWED. Levels of loneliness, anxiety, and ED symptom severity were all extremely elevated in Study 2 relative to population norms. Participants reported a high degree of ED-related COVID impact, which is consistent with other research on the early impact of COVID-19 (Fernández-Aranda et al., 2020; Termorshuizen et al., 2020). Our work extends these findings to show a positive association between loneliness and the ED-related impact of COVID-19 using a novel measure. However, even in this challenging context, analyses revealed that family identification may be a protective factor. Our work provides a framework for understanding *why* increased connection with family during the pandemic may be a positive life change for PWED (Termorshuizen et al., 2020).

Furthermore, our findings provide a framework for understanding in general why family is so important in adult ED treatment (Treasure & Palazzo Nazar, 2016). Although family-based treatment is considered best practice for adolescents with EDs, it is less common for adults (Boland et al., 2019). PWED are more satisfied with family support when

the approach is concerned rather than directive (Geller et al., 2017a), and the carers of adult PWED view a collaborative stance as more useful and report more positive caregiving experiences compared to a directive stance (Geller et al., 2017b). Family-based interventions that target repairing/building of family identification to support a collaborative approach to tackling loneliness in recovery might be especially helpful. Both samples were, on average, ambivalent in their level of family identification, and these levels were lower than in typical samples (e.g., Stevenson et al., 2020), suggesting family identification could be increased with targeted intervention. A social identity framework would suggest that in the treatment context, the family might be fruitfully conceptualised as a *group* rather than as a collection of interpersonal relationships. In other clinical populations, interventions to bolster social identification with groups have been found to benefit mental health (e.g., Haslam et al., 2019; Steffens et al., 2019). Therefore, interventions that target the building of family identification to support a collaborative approach might be a promising avenue for future research. This represents a novel approach to family intervention that does not require change to trait-type constructs. With respect to loneliness and isolation, there can be a tendency to view isolation reductionistically as an individual factor needing biological recovery (Keys et al., 1950; Rotenberg & Flood, 1999), but this study suggests the potential importance of tackling this issue through important social relationships, namely, the family.

Strengths, Limitations, and Future Research

This project had several strengths. One was the inclusion of two samples incorporating a total of over 300 PWED. Although participants self-reported their diagnoses and were recruited through ED support websites, evidence suggest that users of these websites show similar levels of severity to clinical samples (Darcy & Dooley, 2007). Another strength was the capacity of these two studies in combination to demonstrate that the psychological processes under investigation are relevant both in general, and in the context of

a major life-changing stressor. Nonetheless, there are also limitations. First, both studies were cross-sectional and cannot establish causal relationships, so any conclusions must be drawn tentatively. Second, both samples were predominantly female, White and cisgender. Longitudinal investigations of these relationships with more diverse samples are needed to confirm the generalisability of these findings. Moreover, although some important variables were controlled for in the analyses, additional ones (e.g., identification with peers/friends) were not: future research should explore the role of such variables. Additionally, it would be important to determine the factors that predict family identification to inform intervention development as well as investigating whether family identification operates in the same protective fashion for other family members. Moreover, future research could fruitfully explore whether the relationships observed in the present research are moderated by the acuteness of the participants' current ED stage, as loneliness is especially problematic during acute phase of EDs (Levine, 2012).

Conclusion

In two studies, we provide a preliminary demonstration that family identification may be protective for PWED. This was apparent in its associations with fewer and less severe ED symptoms, and in the context of the COVID-19 pandemic, reduced ED-related impact, and reduced anxiety. In both studies, these benefits were potentially attributable to the protective role of family identification against loneliness. This is consistent with a growing body of research illustrating the toxic health consequences of loneliness outside of the ED context. These findings provide further support for the focus on the family in ED treatment, and specifically for conceptualising this in terms of one's subjective affiliation with, and self-definition in terms of, one's family. Furthermore, these findings highlight the role of family as a protective resource, both when it is 'business as usual' and in times of crisis.

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Table 1

Study 1: Means, standard deviations, alphas (where applicable), and correlations for the key variables

Variable	Range	M	SD	α	1	2	3
1.Family Identification	1-7	4.27	1.86	-	-		
2.Loneliness	3-9	6.86	1.89	.80	-.31**	-	
3.ED Symptom Severity	16-96	70.48	17.77	.94	-.26*	.48***	-

Note: * $p < .05$, ** $p < .01$, *** $p \leq .001$.

Table 2

Study 2: Means, standard deviations, alphas (where applicable), and correlations for the key variables

Variable	Range	*M*	*SD*	α	1	2	3	4	5
1.Family Identification	1-7	3.56	1.89	-	-				
2.Loneliness	3-9	7.06	1.79	.79	-.31***	-			
3.ED Impact of COVID-19	1-7	4.69	1.18	.78	-.14†	.39***	-		
4.Anxiety	0-42	15.79	10.01	.86	-.13†	.39***	.38***	-	
5.ED Symptoms	0-36	21.52	7.88	.87	-.33***	.35***	.35***	.39***	-

Note: † $p < .054$, * $p < .05$, *** $p < .001$

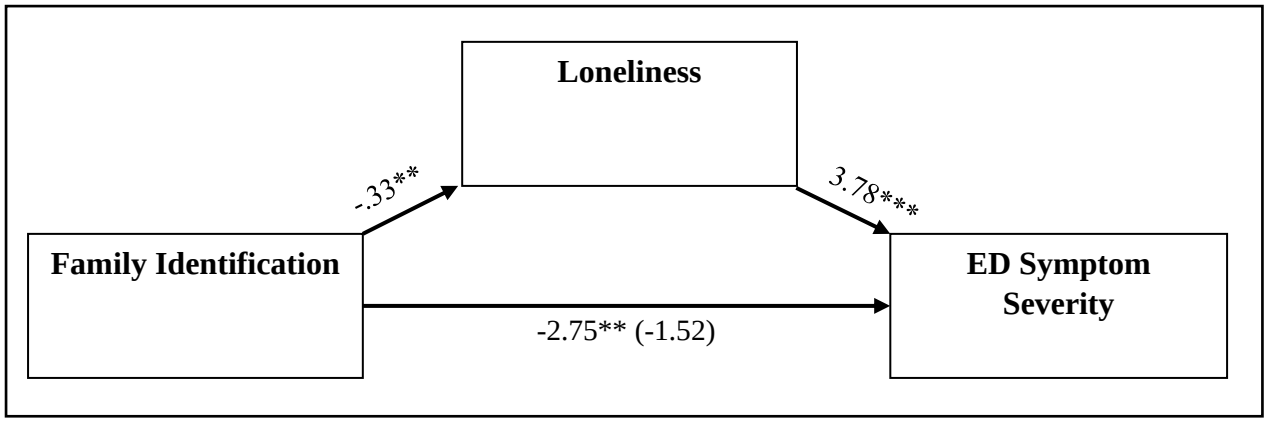

Figure 1. Study 1: Model depicting the indirect effect of family identification on symptom severity through loneliness. On the *c* path, the value outside brackets is the total effect, while the value inside brackets is the direct effect. Control variables are not depicted. *** $p < .001$, ** $p \leq .01$.

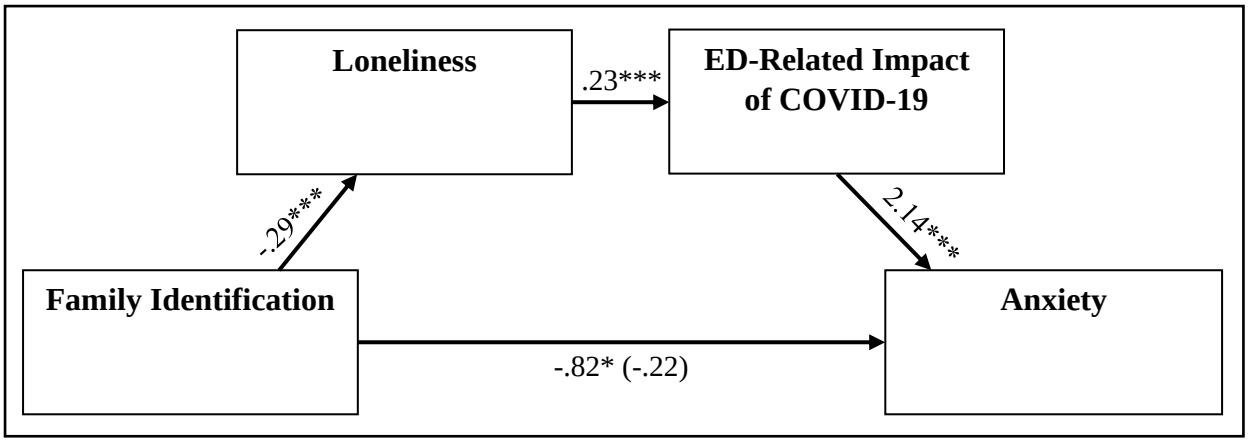

Figure 2. Study 2: Model depicting the indirect effect of family identification on anxiety through loneliness and ED-related impact of COVID-19. On the *c* path, the value outside brackets is the total effect, while the value inside brackets is the direct effect. Control variables are not depicted. *** $p < .001$, * $p < .05$.

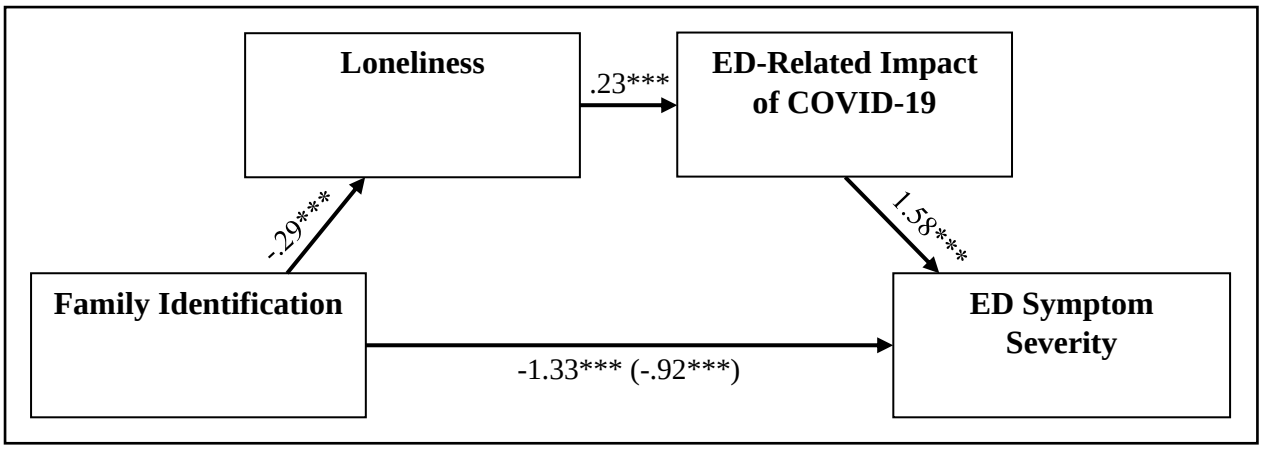

Figure 3. Study 2: Model depicting the indirect effect of family identification on ED symptom severity through loneliness and ED-related impact of COVID-19. On the *c* path, the value outside brackets is the total effect, while the value inside brackets is the direct effect. Control variables are not depicted. *** $p \leq .01$.