ORIGINAL ARTICLE

Distress Among Parents of Individuals with Substance Use Disorders: Factors That Shape the Context of Care

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Abstract

Impacts from substance use within families demonstrate there is a reciprocal relationship between substance use and family dysfunction/conflict and low family support. Caregivers supporting loved ones engaged in substance use experience wellbeing consequences. Few studies address both the individual tangible strains of the care provided and the role of relationship quality factors between loved ones in recovery including communication, trust, and family stability. Participants ($N = 160$, mean age 48.14 years; 48% female, 52% male) in the current study were 72% white and 11% Black, Indigenous, and People of Color (3%) and were recruited through substance use treatment agencies and recovery support forums for family members; 90% of participants reported being a parent or in a primary family caregiver role (step-parent, grandparent/extended family member who had raised the child; 10%) of an adult child who had sought treatment for substance use disorders. Results indicate these caregivers experience exacerbated psychological distress with mental health symptom ratings above the most severe clinical thresholds anxiety, depression, stress, and caregiver burden. Concerning ratings on family relationship quality factors were also evident. Linear regression using forward-entry methods significantly predicted over 40% ($R^2 = .419$) of variance in caregiving burden $F(5, 161) = 23.24$, $p = .000$ and indicated that increases in anxiety, financial anxiety, and stress are the most significant predictors of caregiving burden. This study suggests that stress reduction interventions for family caregivers may be critical, particularly given of their central roles in their loved ones' treatment as facilitators of treatment activation, engagement, long-term recovery supports.

Keywords Caregiver burden · Family caregivers · Substance use

According to the Substance Abuse and Mental Health Services Administration (SAMHSA, 2019) more than 20 million American's aged 12 or older had a substance use disorder (SUD) in 2018. Annually, American society sees more than $740 billion in substance use

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costs related to crime, lost work productivity, and healthcare (National Institute on Drug Abuse, 2020). These societal burdens accumulate by means of individuals engaged active substance use and those working to reduce their harmful behaviors on a path to recovery. As a chronic relapsing condition, SUDs are not treated in a single service engagement, but more often require multiple treatment attempts and ongoing supports to maintain a lifetime in recovery (Shumway et al., 2019). Despite the prevalence of SUDs, the Substance Abuse and Mental Health Services Administration (SAMHSA, 2019) estimates that approximately 11% of individuals in need of SUD treatment receive it. Nearly a third of individuals report treatment that is minimally adequate (CBHSQ, 2016), and gross disparities in treatment quality, uptake, and usage exist (Sprague Martinez et al., 2018). The low rates of treatment uptake, and disparities in use and quality, suggest that many families bear the impacts of SUDs with minimal effective treatment supports.

Impacts from substance use within families are well-documented and have established that there is a reciprocal relationship between family relationship factors and substance use, specifically bidirectional associations between substance use and family dysfunction/conflict and low family support (Orford et al., 2013). Families may change their routines, interactions, and roles when a family member has a SUD—often to keep their loved one safe or healthy. These shifts in the family system may endure after the SUD member achieves sobriety (Shumway et al., 2019; Wegscheider-Cruse & Cruse, 2012) and contribute to the individual's long-term recovery outcomes. When a loved one is in active substance use, it is likely that family members will develop emotional and behavioral responses to manage the associated difficulties. Family members often function under extreme fear of the loved one's harm, and experience significant distress (BLIND, 2020; Shumway et al., 2019). Further, when loved ones seek recovery from SUDs, family members must again adapt to meet the loved one's new recovery status.

Studies of family dynamics across the lifespan indicate that family caregivers play important, ongoing supportive roles in adult children's care and wellbeing, providing instrumental and emotional support (for example, pragmatic resources including finances, housing, and other tangible supports as well as the positive, nurturing exchanges that typify emotional support) (Antonucci et al., 2011; Gilligan et al., 2017), particularly in times of increased stress. Parents (including biological parents, step-parents, adoptive parents, foster parents, or extended family members who acted as a guardian of child—here forward described as *family caregivers* for the purposes of this study) are crucial facilitators of their children's care throughout childhood often extending care into adulthood—particularly when children are diagnosed with chronic, relapsing health conditions (Gilligan et al., 2017; Golics, et al., 2013). Evidence indicates that families are acutely impacted by substance abuse (BLIND 2020; Saatcioglu et al., 2006; Shumway et al., 2019), both situated as the context for the ongoing process of recovery while also experiencing impacts from their loved one's substance misuse, leading to the characterization of substance use disorders (SUDs) as a family disease (Lander et al., 2013; McPherson et al., 2017; Roth, 2010). Further, aside from the downstream impacts of an adult child's substance use on the family, there are established linkages between family dynamics and subsequent substance use that indicate substance use often occurs in family contexts characterized by concerning indicators of relationship quality (e.g., poor communication, conflict, and high levels of stress) (Groenewald & Bhana, 2016; Orford et al., 2013). Few studies have concurrently accounted for these relationship quality factors as well as the tangible strains that accompany family caregiving.

When a SUD diagnosis occurs in adolescence or early adulthood, caregivers experience burdens associated with delays in the ongoing individuation process whereby adult

children gradually move from interdependent and highly interconnected relationships with their family caregivers into increasingly differentiated, independent roles (Gavazzi & Sabatelli, 1990; Kaur et al., 2018; Skowron, et al., 2003). Specifically, research suggests that caregivers experience financial strain (Karriker-Jaffe et al., 2018; BLIND, 2020), and steep impacts on mental health and physical wellbeing (Butler et al., 2005; Pinquart & Sörensen, 2003; Tyo & McCurry, 2020). Qualitative evidence from a very small sample of 5 parents directly links the family conflict and financial strains parents of young people with substance use histories with feelings of shame, guilt, anger, and depression (Groenewald & Bhana, 2016). This is one of very few studies examining caregivers' affective experiences to address the role of relationship-level factors between family caregivers and adult children in recovery and individual-level factors that include family caregivers' subjective experiences of these strains. The current study sought to address this gap in the literature by exploring the extent and impact of caregiving burden in a sample of family caregivers of adult children aged 18–30 who had sought substance use treatment.

Given pervasive impacts on the entire family system, and the pre-existing family relationship factors that often underpin substance use, SUDs are conceptualized as a family disease (Lander et al., 2013; McPherson et al., 2017; Roth, 2010). There is consistent evidence that family members experience co-suffering, or co-impairment (Shumway et al., 2019) and intense physical, emotional, and psychological distress related to a family member's SUD (BLIND, 2020; Tyo & McCurry, 2020), and social supports available to the caregiver are significant predictors of resulting levels of burden (MacMaster, 2008).

Caregiver Burden

Caregivers supporting an adult child engaged in substance use experience social and wellbeing consequences including exhaustion, depression, anxiety, and traumatic stress (Richter et al., 2000). Unmet caregiver health and wellbeing needs that arise also pose a threat to the quality of support available to the person in SUD treatment and are associated with poorer outcomes for care recipients (Biegel et al., 2007, 2010). Despite these findings on the experience of caregiver burden and its consequences among families contending with SUDs, there is scant literature on the specific factors that contribute to caregiver burden in this population.

Affective connections underpin or motivate the caregiving behaviors used to provide tangible and emotional support in times of stress (Antonucci et al., 2011; Dombestein et al., 2019). Some (e.g., Cutrona, 1996, in the case of physical illnesses) have suggested that supportive behaviors might even have a counter intuitive adverse effect, leading to dependence and reinforcement of problematic behaviors. For example, family caregivers who provide financial support with the intention of easing a tangible strain for their loved one, may instead be fostering reliance on those funds which can be used to perpetuate substance use. In the context of SUD recovery, interactions between family members can include expected negative dynamics that contribute to tension or conflict; however, negative relationship quality factors are not solely associated with distress. Family relationships characterized by positive interactions can also be a source of worry: we care about the suffering our loved one's experience and can feel a degree of discomfort ourselves when they hurt. This feeling of responsibility is often exacerbated in the case of family caregiving (Shumway et al., 2019). These sometimes counter-intuitive patterns within families help the field understand the

impacts of intergenerational support exchanges for care recipients (Antonucci et al., 2011; Uchino, 2004), certainly, but also on caregivers. For example, parents providing tangible aid to adult children with a SUD might offer financial resources for treatment and other living expense costs crucial to the recovery and quality of life outcomes for their child but that strain the family's resources (e.g., Karriker-Jaffe et al., 2018; BLIND, 2020), just as the less tangible emotional support offered may offer deeply meaningful reassurance and encouragement but be stressful for families to navigate. Recent research indicates caregivers report feeling sadness, resentment, and anger as they attempt to manage familial boundaries with their adult children as they negotiate whether, when, and to what extent to provide support (BLIND, 2020).

Individuals learn to care for family members and those they love from family experiences—following the examples of distress management and caregiving the observe during times of stress or illness modeled within families of origin (Broese van Groenou et al., 2016; Ng et al., 2016). These experiences shape the socialization of coping and caregiving, building internal working models for caregiving that serve as blueprints for the attitudes and behavior that constitute support exchanges (either of instrumental aid or emotional affect/encouragement) across intergenerational relationships (Antonucci et al., 2011; Ng et al., 2016; Sherman et al., 2015).

Researchers describe the intraindividual experience of caregiving burden most often through theoretical models of stress, noting that the demands of caregiving for loved ones with chronic health conditions often exceed the limits of the caregiver's capacity to adapt (Raina et al., 2004). Indeed, stress theories elucidate the etiology of stress as the product of the demands in an individual's environment and their ability to respond (Lazarus, 1993); those who study caregiver burden might then best explain the variability in caregiver stress and strain by accounting for characteristics of the individual's environment (relationship quality within the family as well as quality and satisfaction with broader social supports) and those specific to the individual themselves (e.g., coping skills or pre-existing mental health symptoms).

Current Study

Evidence is mounting that caregivers of individuals seeking treatment for SUDs experience mental health struggles while providing tangible and emotional support that may lead to the collection of subjective stresses and objective strains that constitute caregiver burden (Tyo & McCurry, 2020). There is, however, a lack of research that accounts for the contribution of relationship quality factors known to be at play in the recovery from SUDs; thus, the present study sought to address this gap and investigate their contribution to caregiver burden. Using forward multiple regression, we investigated the factors that predict caregiving burden among family caregivers of individuals seeking treatment for SUDs. Based on indications in the literature that caregiving experiences may be meaningfully gendered (Craig & Mullan, 2010; McCann et al., 2012), we include post hoc examinations of participant gender effects. Our research questions for this study include the following: How are mental health symptoms, relationship quality factors, and caregiver burden related among caregivers of adult children with SUDs? What is the best fitting model for caregiver burden outcomes? Does caregiver gender play a significant role in this model?

Method

Sampling and Recruitment Procedures

The sample for the present study were adults who self-identify as a family caregiver (including biological parents, step-parents, adoptive parents, foster parents, or extended family members who acted as a guardian) to a young adult child aged 18–30 who had sought treatment for a SUD. Eligible participants were those who answered a screening question about their child's SUD treatment history, affirming at least one treatment attempt. Convenience sampling procedures were used to recruit the present sample. After conducting a thorough internet search for online support forums for caregivers of individuals with SUDs, 12 online forum administrators were contacted to ask permission to post recruitment documents including a link to the anonymous survey for this study in their online forums. Two forum administrators declined due to privacy policies concerning use of email listservs for recruitment purposes, and six forum administrators failed to respond. Four forums responded affirmatively. Further, we recruited participants from a local SUD treatment facility. The recruitment document contained the link to the consent and anonymous survey documents, administered online through Qualtrics. Participants who provided their consent completed screening questions which asked them to identify 1) their relationship as a family caregiver (parent, step-parent, adoptive parent, foster parent, or extended family member who had raised the adult child including grandparent or aunt/uncle) to their loved one seeking SUD treatment (hereafter referred to as the adult child), and 2) whether their adult child had sought treatment at least once before beginning the survey. The majority of participants were recruited through three online forums, *Forum 1* ($n=27$, 60%), *Forum 2* ($n=72$, 32%), and *Forum 3* ($n=12$, 5%) as well as the local treatment site ($n=44$, 20%).

Participants

Participants ($N=167$) was 65% ($n=109$) female and ranged in age from 33 to 78 (M$=52.07$, SD$=8.31$). Participants reported that their adult child who sought SUD treatment ranged in age from 18 to 30 years old (M$=23.77$, SD$=4.51$). Participants reported their adult child preferred substance was primarily heroin or opioids ($n=66$, 39%) followed by marijuana ($n=30$, 18%), alcohol ($n=21$, 13%), and cocaine ($n=20$, 18%). Seventeen (10%) participants reported that their adult child preferred hallucinogens or benzodiazepines. See Table 1 for further sample characteristics.

At the time of this survey, 27 (17%) participants reported that their loved one was in active addiction, and expressed a desire for recovery, while 1 (0.6%) was in active addiction and did not want recovery. Sixty-five (41%) participants reported their adult child had been in recovery for less than 6 months, 58 (37%) had been in recovery for a moderate amount of time (6–12 months) and 8 (5%) had been in recovery longer-term, for at least a year. Many participants ($n=116$, 70%) provided a living space for their adult child, while 11% ($n=19$) said they lived in their own home. Some adult children ($n=7$, 4%) lived with a romantic partner or an extended family member ($n=8$, 5%). Four participants (2%) said their adult child was living in a hotel, temporary housing or staying with friends (couch surfing), and 12 (7%) lived in a sober living home. Seventy four percent of participants ($n=124$) reported that their adult child had experienced legal trouble that was directly related to their substance use. Charges reported included traffic violations such as driving

Table 1 Participant demographics

N = 167	μ (SD)
Age	52.07 (8.31)
	n (%)
Gender	
Male	59 (35%)
Female	109 (65%)
Race	
White	119 (70.8%)
LatinX	22 (13%)
Black	12 (7%)
Mixed race	13 (8%)
American Indian/Alaska Native	4 (2%)
Asian	3 (2%)
Native Hawaiian/Other Pacific Islander	4 (2%)
Parent status	
Biological parent	137 (82%)
Stepparent	11 (7%)
Adoptive parent	6 (4%)
Aunt/uncle, primary caregiver	10 (6%)
Grandparent, primary caregiver	4 (2%)
Education	
Some college–no degree	27 (16%)
Bachelor's degree	48 (27%)
Associate's degree	43 (26%)
Advanced degree	36 (21%)
Individual with SUD	μ (SD)
Age	23.7 (4.51)
	n (%)
Treatment	
Inpatient	58 (35%)
Intensive outpatient or hospitalization	157 (94%)
Fellowship recovery groups	100 (60%)
Individual outpatient therapy/family therapy	123 (73%)
Recovery attempt frequency	
One attempt	12 (7%)
Two attempts	23 (14%)
Three attempts	41 (25%)
Four attempts	28 (17%)
Five attempts	14 (8%)
Six or more attempts	48 (29%)

under the influence, public intoxication, possession of a controlled substance, selling or purchasing a controlled substance, stealing, interpersonal violence, and prostitution.

Procedure

After obtaining IRB approval from [BLIND FOR REVIEW, IRB2020-359], the research team asked permission to recruit from 11 administrators of support providers. Five agencies—4 online forums and a local treatment provider—agreed to facilitate recruitment by distributing the study materials. Participants who consented to the study procedures

completed a single, anonymous survey lasting approximately 30 min. As data were collected, $20 electronic gift card incentives were awarded to each participant via email within five business days.

Measures

Anxiety The Generalized Anxiety Disorder (GAD-7) seven-item scale assesses symptoms of generalized anxiety disorder (Spitzer et al., 2006). Items are rated on a four-point Likert scale (0 = *not at all*, 1 = *several days*, 2 = *over half the days, 3 = nearly every day*). Items describe features of GAD-7 including feelings of nervousness, irritability, and restlessness. Example items include, "Over the last two weeks, how often have you felt nervous, anxious or on edge." Scores on the GAD-7 range from 10 to 28, with higher scores indicating more severe symptoms of anxiety, and have demonstrated acceptable internal consistency with α = 0.88 (Johnson et al., 2019). Cronbach's alpha was acceptable in the current sample at α = 0.767.

Depression The major depression inventory (MDI; Olsen et al., 2003) is a 10-item scale that assesses symptoms of major depression. Responses are measured across a six-point Likert scale (0 = *at no time*, 1 = *some of the time*, 2 = *slightly less than half the time*, 3 = *slightly more than half the time*, 4 = *most of the time*, 5 = *all the time*). Higher scores indicate higher levels of depression, and scores ranged from 0 being the lowest possible score to 50 being the highest possible score. Items describe features of major depression including feeling low in spirits and losing interest in daily activities. Example questions include, "How often in the last two weeks have you felt low in spirits or sad?" The measure has strong internal consistency in the current study α = 0. 857.

Perceived Stress Level Perceived Stress Scale (PSS) is a ten-item assessment of perceived stress level (Cohen & Williamson, 1988). The items focus on feelings of stress in the past month including feelings of control, nervousness, irritability, and task management. Example items include, "In the last month, how often have you been upset because of something that happened unexpectedly?" Responses are measured on a five-point Likert scale in which 0 = *never*, 1 = *almost never*, 2 = *sometimes*, 3 = *fairly often*, and 4 = *very often*). Items 4, 5, 7, and 8 require reverse coding. Higher scores indicate higher levels of perceived stress, and possible responses range from 0 to 30. Cronbach's alpha in the current study is α = 0.61.

Financial Anxiety The 10 item Financial Anxiety Scale (FAS) is used to assess the affective experience of financial stress (Shapiro & Burchell, 2012). Respondents indicate how true a statement is for them along a four-point Likert scale in which 1 = *very true, 2 = somewhat true*, 3 = *somewhat untrue*, and 4 = *completely untrue.* Example items from the FAS include "I feel anxious about my financial situation" and "I have difficulty sleeping because of my financial situation." As designed by the scale's authors, the possible scores range from 10 to 40 such that low scores indicate higher levels of financial anxiety, while high scores indicate lower levels of financial anxiety; however, given the inverse directionality intended by this scoring, it may ease interpretation to think of higher scores indicating a degree of affective resilience to financial stress. Cronbach's alpha coefficients are acceptable in the present study (α = 0.82).

Relationship Quality Factors Several measures of family dynamics were included to assess relational factors. The Revised Inventory of Parental Attachment (RIPA; Johnson et al., 2003) was adapted from Amsden & Greenberg's (1987) Inventory of Parent and Peer Attachment, which demonstrated internal consistency for three subscales, trust (mutual understanding, and respect), alienation (characterized by feelings of isolation), and communication (the extent and quality of verbal communication between relationship members). To emphasize the impact of relational mental representations on individual, dyadic, and family functioning, the RIPA adapted the Inventory of Parent and Peer Attachment to increase focus on the influence of internal working models on parent and close peer relationships (Johnson et al., 2003). Confirmatory factor analysis suggested the RIPA's resulting 22-item format had a two-factor solution, as opposed to the IPA's three-factor structure; researchers suggested that one factor closely corresponded to the construct of trust/avoidance, and the second to communication (Johnson et al., 2003). Participants respond along a 5-point Likert scale, 5=*Always*, 4=*often,* 3=*sometimes,* 2=*not very often,* and 1=*Never.* Negatively worded items were reverse scored to ensure unidirectionality prior to calculating a subscale total scores, such that higher scores indicate higher levels of trust and communication, respectively. The trust/avoidance subscale includes example items such as "I trust my loved one," with acceptable reported internal consistency ($\alpha=0.76$–0.91; Johnson et al., 2003; Johnson et al., 2006), also found in the current sample, $\alpha=0.77$. The communication subscale includes items like "My loved one asks about what is bothering me," and also has acceptable internal consistency at $\alpha=0.77$ in the present sample.

Family Stability The Stability of Activities in the Family Environment (SAFE-R) (Israel & Roderick, 2001) a 23-item measure of regularity of family activity and routine. Respondents indicate along a five-point Likert scale in which 1=*not at all*, 2=*rarely*, 3=*sometimes*, 4=*often*, 5=*always*. Higher scores represent a greater degree of family stability (Israel & Roderick, 2001). Scores ranged from 23 to 115. Example items include, "How often do you engage in weekend activities with family members?" Cronbach's alpha was acceptable for the total scale at $\alpha=0.89$ in the current sample.

Caregiver Burden The Burden Scale for Family Caregivers (BSFC) short version is a ten-item measure that assesses participant perception of the burden they experience related to their role as a family caregiver (Pendergrass et al., 2018). Participants respond on a three-point Likert scale 0=*strongly disagree*, 1=*disagree*, 2=*agree*, 3=*strongly agree*. An example item from the measure is "My life satisfaction has suffered because of the care I provide." Possible scores range from 0 to 30, and higher scores indicate greater perceived caregiving burden. Cronbach's alpha was acceptable in the present sample at $\alpha=0.81$.

Data Analysis

Since a proportion of this sample was recruited from online forums, we employed rigorous procedures to ensure data integrity (Chandler & Shapiro, 2016). First, the survey was protected from potential hackers using a password provided on the recruitment materials. Participants were also asked to complete a captcha attention screener to verify that they were human participants, as opposed to computerized bot responders. Once the data were collected, researchers verified the location of each IP address to ensure responders met inclusion criteria (e.g., were located within the USA). Further, cases with 50% missingness

or greater were deleted listwise, and remaining missingness was estimated through expectation maximization methods.

All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 25. Preliminary data analyses indicated that predictor variables used showed a relationship to the dependent variable, and VIF/tolerance scores fell in the acceptable range—between 1.0 and 2.0—indicating no significant multicollinearity that would negatively impact analysis. Linear regression was best suited for use to predict the caregiver burden based on the value of multiple other variables (Tabachnick et al., 2007). Forward entry methods were selected to employ a stepwise regression that begins with a model containing only the constant, adding variables to the model at each step to reach a model that offers the best fitting solution.

Results

The aim of the present paper is to describe the associations between mental health, relationship quality factors, and caregiver burden and to identify the factors that predict burden, among family caregivers of adult children who had sought treatment for a SUD. Prior to regression analyses, we calculated correlations between the independent and dependent variables (see Table 2).

Descriptive Findings

The distribution of mental health symptoms reported by this sample indicate this group of caregivers are experiencing extreme difficulties (see Table 1). The mean anxiety score of 17.71, depression score of 38.5, and perceived stress score of 31.13 each fall in the highest

Table 2 Descriptive statistics and bivariate correlations for key variables

Construct	Mean (SD)	1	2	3	4	5	6	7	8
1. Anxiety	10.72 (3.71)	–							
2. Depression	26.55 (8.76)	.701**	–						
3. Perceived stress	21.15 (5.35)	.459**	.362**	–					
4. Caregiver burden	20.59 (4.54)	.493**	.390**	.502**	–				
5. Trust/avoidance	49.34 (7.46)	−.324**	−.390**	−.420**	−.165**	–			
6. Communication	18.41 (3.89)	.140	.138*	−.342**	.136	.471**	–		
7. Financial anxiety	23.92 (5.59)	−.185**	−.229**	.070	−.275**	.031	−.335**	–	
8. Family stability	70.83 (14.10)	.202**	.209**	−.319**	.140	.167*	.67*	−.231**	–

All correlations are two-tailed; *$p < .05$, **$p < .01$

range of scores for each respective measure. Indications of financial anxiety were less extreme in that the average score of 23.92 falls roughly in the middle of the possible score range. Average scores of caregiving burden of 20.59 indicating moderate to significant levels of caregiver burden. Similarly, the sample's average family stability score of 70.83 indicates below-average stability, just as the average trust/avoidance and communication scores indicate lower quality interactions (Table 3).

Pearson correlation indicate several significant notable associations among variables of interest (see Table 1). Positive correlations between caregiving burden and depression ($r=0.309$, $p=0.000$), anxiety ($r=0.493$, $p=0.000$), and stress ($r=0.502$, $p=0.000$) were all statistically significant and indicate moderate associations in expected directions. Caregiving burden, depression, and anxiety also correlate in the expected directions, indicating that mental health symptoms and caregiver burden are experienced in concert by this population. An additional noteworthy finding is the significant correlation between caregiving burden and financial anxiety. Results suggest that when caregiving burden increases, financial anxiety also increases ($r=-0.275$ $p=0.000$), indicating that financial concerns may accompany caregiving strain. The smaller but significant correlation between caregiving burden and family relationship qualities (per the RIPA trust/avoidance scale) ($r=-0.165$, $p=0.034$) correlate in expected directions indicating that when caregiving burden increases, the parent–child relationship weakens. The RIPA communication subscale did not correlate significantly with caregiver burden but was significantly associated with depression ($r=0.183$, $p=0.018$) stress ($r=-0.342$, $p=0.000$), as well as financial anxiety ($r=-0.335$, $p=0.000$) and family stability ($r=0.67$, $p=0.000$), indicating that caregivers' reports of positive communication with their adult children were linked to both affective and tangible strains.

Primary Analysis

We regressed caregiver burden on anxiety, depression, financial anxiety, perceived stress, and relationship quality factors. Results showed that the overall model significantly predicted nearly 40% ($R^2=0.419$) of variance in caregiver burden $F(5, 161)=23.24$, $p=0.000$. The analysis showed that anxiety ($B=0.6442$, $t(166)=3.701$, $p=0.000$, CI [0.227, 0.656]), financial anxiety ($B=-0.221$, $t(166)=-4.32$, $p=0.000$, CI [$-0.322, -0.120$]), and perceived stress ($B=0.376$, $t(166)=6.10$, $p=0.00$, CI [0.255, 0.498]) contributed significantly to the model (see Table 2). However, depression $B=-0.067$, $t(166)=-1.47$, $p=0.143$, CI [-0.157, 0.023]) and relationship quality factors $B=0.059$, $t(166)=1.40$, $p=0.162$, CI [-0.024, 0.142]) did not contribute significantly to the model and were excluded. This regression equation indicates that increases in anxiety, financial anxiety and perceived stress are associated with increases in caregiver burden. [Note, the negative Beta weight for financial anxiety reflects FAS scoring as described in the Measure section, where low

		B	SE B	β	t	P
Table 3 Significant beta coefficients						
	Regression: effect on caregiver burden					
	Anxiety	.342	.109	.361	4.06	.000
	Financial anxiety	− .221	.051	− .272	− 4.32	.000
	Perceived stress	.376	.062	.443	6.10	.000

scores are associated with higher levels of financial anxiety. Therefore, higher levels of financial anxiety are associated with increases in caregiver burden.]

After conducting the primary regression analysis and based on previous studies that demonstrated gendered effects for caregiver burden (Craig & Mullan, 2010; McCann et al., 2012), we conducted an additional regression model that included gender as an independent variable along with anxiety, depression, financial anxiety, perceived stress, and family relationship quality factors. This regression model was significant $F(7, 159) = 18.675$, $p = 0.000$, it accounted for $R^2 = 0.42$ variance in caregiver burden. Gender was not a significant predictor of caregiver burden and was removed from the model ($B = 0.669$, $t(159) = 1.24$, $p = 0.216$, [CI − 0.394, 1.73]). Therefore, in effort to develop and report the most parsimonious model possible, we retain the initial model as the best fitting model (see Table 2).

Discussion

Results from this study indicate concerning levels of mental health symptoms and relationship quality factors among families caring for adult children who had sought treatment for SUDs. For example, the mean anxiety and depression scores fall in the highest range of scores that correspond to severe anxiety and severe depression (Olsen et al., 2003; Spitzer et al., 2006); the sample's average perceived stress score again falls in the highest range possible, indicating an elevated level of perceived stress (Cohen et al., 1983). While these comparisons describe our results in the context of a general population, too few studies have specifically examined these outcomes in the unique subpopulation of family caregivers of young adults contending with substance use to locate more precisely how this sample might compare to others facing the same family context.

More closely comparable are reports of caregiver burden. Average scores of caregiver burden fell in the top third of the possible range, at 20.59, indicating moderate to significant levels of caregiver burden based on the cut-off scores provided to aid interpretation among samples caring for family members with chronic health conditions (Pendergrass et al., 2018). The sample's average family stability score of 70.83 on the SAFE-r indicated less stability than scores reported other clinical samples (88.48; Ivanova & Israel, 2006). While a direct comparison to comparable samples is not possible given the novel measures in the current study for this population, the final relevant contrast is found when considering reports of family dynamics, where trust/avoidance and communication scores were considerably lower than those among high-risk families (e.g., those affected by parental incarceration; Shlafer & Poehlmann, 2010). These findings align with a recent review that found heavy or severe indications of burden in populations with SUDs (Tyo & McCurry, 2020). While this systematic review reported that these robust impacts seen across studies were exacerbated among caregivers of persons with comorbidities, there was no mention of relationship quality factors by which to describe the relationship between family caregivers and their loved ones who used substances. This study aims to address this gap, and is among the first to study both tangible, subjective stresses and relationship strains experienced by these family caregivers.

The gap in the caregiver literature for families facing SUDs reflects some degree of neglect toward the important relationship characteristics family science often considers when studying individual well-being outcomes in the inextricable context of the family (e.g., communication and trust, among others). The central constructs to the social

underpinnings of family life are promising pathways for family therapy and other prevention programming across many diagnoses. For example, bolstering positive interactions and supportive, open communication is well-documented as a meaningful mechanism for supporting positive outcomes among substance using adolescents and young adults (Fletcher et al., 2004; BLIND, 2106; Minaie et al., 2015). Important questions remain about whether family caregivers also benefit from such interventions while maintaining support for their loved one in recovery.

Despite this sound theoretical basis for including relationship quality factors, these were not significant predictors of caregiver burden after accounting for the effects of stress and anxiety. The presence of significant bivariate correlations between caregiver burden and stress, and between stress and relationship quality factors including family stability, communication, and trust suggest that there may be indirect effects at play, best examined through future mediation analysis. An alternative explanation for the lack of effect for the relationship quality constructs included here may be a result of measurement selection; for example, the RIPA scale for the quality of parent–child communication does not consistently correlate with expected constructs (Johnson et al., 2003, 2006). It may also be the case that these variables lacked predictive power because the quality of the relationship between loved ones and their children can be quite positive, and yet caregivers can still be severely burdened by the care they provide. Many loved ones feel close and connected to children but burdened by the intense, off-time care they require in the context of SUD recovery (BLIND). Future models with larger samples and more statistical power might consider exploring quadratic functions for these relationships. This study also contributes novel information about the role of caregiver gender in predictions of burden, finding no significant effect when gender is tested within the model. The lack of a significant finding indicates that fathers who identify as caregivers are no less likely to experience distress stemming from the care they provide than are mothers.

Finally, it is worth note that while anxiety was retained as a predictor in the model, depression was not. It is possible that experiences of intense caregiving are linked more closely to feelings anxiety and stress than they are to depression. The high levels of energy or activation required by family caregivers of loved ones actively using substances leaves caregivers feeling "on edge," and managing a pervasive sense of worry (BLIND, 2020). These experiences of heightened anxiety may be particularly powerful drivers of felt burden. Future studies should explore further the link between anxiety and caregiver burden, taking care to include a comprehensive assessment of sources of worry. By doing so, practitioners can better attune intervention support to address enduring strains stemming from tangible concerns (e.g., offering financial support to their loved one in recovery) and relationship stresses (e.g., conflict, mistrust, or disengagement).

Limitations

Several other limitation points about measurement are warranted. To our knowledge, no psychometrically tested caregiver burden measures exist for caregivers of loved ones with SUDs, despite the unique needs of this population. In addition to the courtesy stigma associated with families contending with SUDs, those supporting a loved one through SUD recovery face complex dilemmas about what support is most helpful in bolstering recovery outcomes—unlike in families contending with recovery from other chronic health conditions. Tyo and McCurry (2020) note, none of the studies in their recent review "measured the difficult emotions and subsequent burden families endure when forced to make such

difficult decisions as limiting available resources" (p. 396), a commonly recommended step for families of those in recovery. The field may be best served developing a measure that accounts for these unique caregiver burden factors for these families. Additional limitations by means of the study design include the cross-sectional nature of data collection that constrains the inferences when interpreting results. For example, experiences of caregiver burden may shift over time for this population, depending on the care recipient's stage of recovery and success of sustained attempts to reduce harm and work towards sobriety. Finally, while recruiting through online support forums to purposefully sample larger groups of eligible participants than might be practical or physically available in a single community, this approach carries known challenges including the introduction of regional differences in treatment access and community resources for families with addictions, and the potential that online convenience samples may not be representative of those recruited in-person.

Conclusions and Implications for Future Directions

It is clear that providing care for a substance using adult child requires intensive, off-time caregiving, and that caregiving can be burdensome to the caregiver in a variety of ways. Results from this study indicate concerning levels of mental health symptoms and relationship strains among families caring for loved ones with SUDs, which point to the need for emotion regulation supports such as interventions that target stress reduction. There is strong evidence for the efficacy of family interventions for SUDs (Rowe, 2012), as many family-based interventions include stress mitigating skill-building opportunities by targeting emotion regulation processes. These skills are of particular utility for families facing chronic relapsing conditions like SUDs (BLIND, 2020). Providing stress reduction and emotion regulation intervention for highly stigmatized families who play central roles in their loved ones' treatment is not only critical for the reduction of deleterious mental health outcomes but could be important for long-term family recovery by promoting adaptive relationship dynamics essential to resilience to enduring stresses. Improving awareness of, and access to these interventions has the potential to bolster positive outcomes for caregivers and loved ones in recovery alike.

Declarations

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