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The salience of intimate partner violence to coping and social support for intimate partners of people with addictions

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Abstract

Intimate partners of people with addictions experience significant strain, which coping and social support may reduce. They are also at increased risk for intimate partner violence (IPV: violence/abuse and coercive control), but IPV's effects on coping and social support are unclear. This study tested the salience of IPV to the Stress-Strain-Coping-Support model, using moderated mediation models with 222 intimate partners of people with addictions. Social support and coping worked differently for each type of strain. Coercive control moderated informal social support's buffering effect for anxiety and depression. Professionals assisting intimate partners should screen for IPV and offer flexible support programs.

Keywords

Addiction; family; coping; intimate partner violence; coercive control; social support; Stress-Strain-Coping-Support Model

Introduction

Addiction is a public health crisis, with an estimated 23.7 million people having substance use disorders and 7.9 million having gambling disorder in the United States alone (7.2% and 2.4% of the population, respectively; U.S. Department of Health and Human Services, 2016; Welte, Barnes, Tidwell, Hoffman & Wieczorek, 2015). Addictions cause devastation for people affected by them, for their families, and for the communities in which they live. While treatment and community-level prevention efforts have increased (Robinson, Christensen, & Bacon, 2019; Substance Abuse and Mental Health Services Administration [SAMHSA], 2018), evidence-based resources are scarce for family members who are struggling to cope with the situation (Kelly, Fallah-Sohy, Cristello, & Bergman, 2017).

Family members of people experiencing problematic addictive behaviors (including loved ones of those with alcohol use disorders, drug use disorders, gambling disorder, and others with problematic sub-clinical use) deal with many negative sequelae. These include a chaotic family life, financial troubles, physical and/or mental health difficulties, legal issues,

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impacts on children, disruption of social connections, and risk for relationship dissolution (Dowling, Rodda, Lubman, & Jackson, 2014; Ray, Mertens & Weisner, 2009; Wilson, Lubman, Rodda, Manning, & Yap, 2018a). The addiction and related problems are a substantial burden on family members (Orford, Velleman, Natera, Templeton, & Copello, 2013), and contribute to low quality of life (Birkeland et al., 2018). Family members may be called “concerned significant others,” or CSOs.

The task of dealing with a loved one’s addiction may be complicated by other related problems such as intimate partner violence (IPV). Spouses or partners (“intimate partners”) are at increased risk of experiencing IPV, with odds ratios of 2.5 for alcohol use disorder, 4.0 for drug use disorder, and 2.4 for gambling disorder (Okuda et al., 2015; Roberts et al., 2018). A multifaceted phenomenon, IPV is a pattern of domination and coercive control enforced through use of physical or sexual violence and/or psychological abuse (Tanha, Beck, Figuero, & Raghavan, 2010). Coercive control tactics may include demands to control the intimate partner’s behavior, time, money, and/or contact with others, as well as credible threats of harm (to the intimate partner, children, pets, or possessions) meant to ensure compliance (Pokman et al., 2014). IPV increases stress on families (McCann, Lubman, Boardman, & Flood, 2017), and may constrain family members’ options for dealing with the addiction.

Stress and coping theory such as the Stress-Strain-Coping-Support (SSCS) model has helped to illuminate the coping strategies that family members use (Orford, Copello, Velleman, & Templeton, 2010); however, the co-occurrence of IPV has not been considered in such research. According to the SSCS model, the behavior of the person with the addiction is a stress on the intimate partner, who subsequently experiences strain (typically operationalized as psychological distress; Orford, Templeton, Velleman, & Copello, 2005). The intimate partner then uses coping and social support to attempt to deal with the strain. While a range of coping behaviors have been identified, some are considered to be more effective than others (Orford et al., 2005). Withdrawal coping (disengaging from the loved one and refocusing on oneself) is expected to attenuate strain, whereas engaged coping (engaging with the loved one about their addiction via expressing emotion or acting assertively) and tolerant coping (putting up with the addiction) are expected to exacerbate the strain. Similarly, informal social support from family/friends (listening, empathy, and supporting coping and decision-making) and formal social support (confiding in or receiving advice and information from professionals) may be beneficial, while negative (unhelpful or critical) “support” is not beneficial.

There is limited, inconclusive research on how coping strategies and social support function for intimate partners and other family members. That is, coping and social support have been hypothesized to operate in three different ways for CSOs: they may mediate or moderate the stress-strain relationship, or may simply function in an additive fashion (Orford et al., 2019). Mediation analysis identifies the intervening processes (e.g., coping and social support) that link addiction stress and strain. For types of coping and social support that are not mediators (Hayes & Rockwood, 2017), moderation analyses determine whether they interact with addiction stress to produce especially high or low strain. Finally, types of coping and social support that neither mediate nor moderate the stress-strain relationship may still directly

affect strain in an additive manner. Studies have yielded support for all three hypotheses to date.

Horváth & Urbán (2019) conducted a simultaneous mediation test (of a single statistical model that includes the proposed mediators) to see whether the three types of coping mediated the relationship between addiction stress and strain (hopelessness). Tolerant coping was a significant mediator, with use of tolerant coping predicting elevated hopelessness. Another study tested simultaneous mediation of the three types of social support (Spicer, 2014). Negative social support was a significant mediator, with higher strain (distress) predicted upon receipt of negative social support. In two other studies, researchers indirectly assessed types of coping for mediation via partial correlation. Arcidiacono and colleagues (2010) inferred that tolerant coping mediated the stress-strain relationship, while Orford and colleagues (2019) inferred that engaged and tolerant coping may partially mediate the stress-strain relationship.

Researchers have also tested whether coping is a moderator in the stress-strain relationship. Orford et al. (2019) tested engaged and tolerant coping and found that both interactions were significant: participants who experienced high addiction stress and extensively used engaged or tolerant coping reported the most severe strain, whereas under low addiction stress use of engaged or tolerant coping appeared to make little difference to strain. Similarly, in tests of all three types of coping, Horváth & Urbán (2019) also found that engaged coping moderated the relationship between stress and hopelessness (strain), but in the opposite direction: under high addiction stress, participants using a lot of engaged coping reported *lower* hopelessness than those using less engaged coping. Other studies that tested tolerant coping for moderation did not find it to be significant; instead, researchers concluded that it functioned in a more additive fashion (Arcidiacono et al., 2010; Orford et al., 2001).

Thus, current research on how coping and social support function for family members has had contradictory results. Without a clear understanding of how coping and social support function to alleviate strain due to a loved one's addiction, the development of evidence-based interventions and resources is impeded. Untangling the relationships between these strategies can help guide development of needed supports for families.

A necessary next step is determining how coping and social support function together. This task will require sophisticated statistical methods to simultaneously test whether each type of coping and social support mediates or moderates the stress-strain relationship, something that has not been undertaken to date. In addition to the lack of clarity about how coping and social support function, there are other gaps in our understanding of the task of dealing with a loved one's addiction. For instance, although studies have utilized negative strain outcomes (e.g. psychological distress), positive outcomes such as quality of life remain unexplored. In addition, because IPV has not been examined in studies of the SSCS model to date, it is not clear whether and how intimate partner violence may complicate coping and social support.

The purpose of the current exploratory study is to investigate the importance of coping, social support, and IPV in the task of dealing with a loved one's addiction. In an examination of the full SSCS model (Orford et al., 2010) with both negative and positive

“strain” outcomes, it will directly test how coping and social support function in the addiction stress-strain relationship, and will investigate the function of IPV in this process. It will first test whether coping and social support mediate the addiction stress-strain relationship, and whether these mediating paths function differently in the presence of IPV (see Figure 1). In addition, it will test whether non-mediating types of coping and social support instead interact with addiction stress as moderators, or simply function in an additive fashion.

Materials and Methods

Participants

Participants were a community sample of adult women who felt their significant other (“partner”) had an alcohol, drug, and/or gambling problem. To be eligible, participants had to be females age 24–65 with a current or recent relationship (within the past year) that had lasted least six months. They were recruited from a university research participant volunteer registry, via flyers posted in public places, and via online notices about the study.

Measures

The survey included demographics, elements of the SSCS model, and IPV. All SCSS and IPV measures used a past-year time frame. For each scale, higher scores indicated more of the construct.

SSCS measures.—The SSCS surveys measure addiction stress, coping strategies, and social support specific to addiction-affected families. Questions on SSCS measures used answer options of never/once or twice/sometimes/always, scored 0–3. Addiction stress was measured by the Family Member Impact Questionnaire (Orford et al., 2005), a 16-item scale of the impact of addiction-related behavior and related consequences on family members. This scale yields a total impact score (range 0–48, Cronbach’s $\alpha = .77$). Coping was measured by the 30-item Coping Questionnaire (Orford et al., 2005). It yields scores for three subscales: engaged (range 0–42, $\alpha = .85$), tolerant (range 0–27, $\alpha = .74$), and withdrawal coping (range 0–18, $\alpha = .60$). Social support was measured by the 25-item Alcohol, Drugs and the Family Social Support Scale (Social Support Scale, Toner & Velleman, 2014). This scale yields subscale scores for informal (range 0–33, $\alpha = .91$), formal (range 0–18, $\alpha = .73$), and negative social support (range 0–24, $\alpha = .85$). Some words on the Family Member Impact Questionnaire, Coping Questionnaire, and Social Support Scale were changed from British to American English (e.g., “drug taking” was changed to “drug use”).

Strain was conceptualized as psychological distress and as quality of life. The Depression Anxiety Stress Scale 21 (DASS, Lovibond & Lovibond, 1995) has seven questions about each subscale of depression ($\alpha = .91$), anxiety ($\alpha = .81$) and stress¹ ($\alpha = .89$). Answer options of never/sometimes/often/almost always are scored 0–3, yielding scores of 0–21 for each subscale. Quality of life was measured with the Personal Wellbeing Index

¹Subsequently called “DASS stress” to emphasize that it is a strain outcome measure, not a measure of addiction stress

(International Wellbeing Group, 2013), which has eight questions about satisfaction with various life domains (e.g., relationships, health, community) that use 0–10 (completely dissatisfied – completely satisfied) answer options. Scores for each question are added to yield a “subjective well-being” score (range 0–80, $\alpha = .70-.85$).

Intimate partner violence.—There were two measures of IPV perpetrated by a participant’s partner. The Woman Abuse Screening Tool (Brown, Lent, Brett, Sas, & Pederson, 1996) has eight questions about arguments and physical, sexual, and emotional abuse. Answer options are never/sometimes/often (scored 0–2; MacMillan et al., 2009), yielding a range of 0–16 ($\alpha = .95$). Violence/abuse IPV is indicated for scores of 4+. Coercive control was measured via the 14-item coercive control subscale of the Mediator’s Assessment of Safety Issues and Concerns (McDonald’s $\omega = .88$; Pokman et al., 2014). For purposes of this study, scores were the number of types of controlling behavior experienced in the past year (range 0–14).

Procedure

All methods and procedures were approved by the university institutional review board. Participants went to the study web page, viewed a consent form, and consented by advancing to the survey. They were invited to provide optional contact information for future studies. Next they completed the screening questions and, if eligible, the main questionnaire. At the end of the questionnaire, those who wished to receive the \$10 [amazon.com](https://www.amazon.com) e-gift certificate remuneration provided an email address and their social security number.

Data management

Data underwent an extensive validation process. This became necessary when two interested parties reposted information about the study on web sites dedicated to addiction and recovery. After both repostings, many surveys were completed back-to-back in the middle of the night, in a fraction of the time taken by legitimate participants, using devices with identical or similar IP addresses, each requesting remuneration. In the validation process, each survey was scrutinized for potential problems with the length of time spent on the survey; device IP address; inconsistencies between contact information, screening questions, and remuneration request; social security number; and fill-in answers. Surveys were considered to be invalid if they showed patterns atypical of valid participants and/or had multiple, egregious problems (e.g., providing a non-existent street address, or a social security number belonging to a deceased person; saying they were female after providing a male contact name; claiming to be a famous or deceased person; giving remuneration email addresses that were identical to or in series with those on previously completed surveys, e.g. bex32@xyz.com and bex33@xyz.com; and/or giving fill-in answers indicating physically impossible substance use such as 800 drinks/day). Of 505 consents, 40 quit before starting the survey, 211 were deemed invalid, 32 were valid but ineligible (e.g., they were male), and 222 were valid and eligible.

Missing data were minimal, with less than 7% of eligible participants starting but not finishing the survey. Missingness was unrelated to scale scores or demographic data ($p > .05$). Missing data were imputed using Stata’s chained multiple imputation procedure,

creating 35 datasets with complete data ($N = 222$). Data were analyzed in SAS. Assumptions for multiple regression were met.

Analysis

Tests of mediation and moderated mediation were completed via Hayes' PROCESS macro (2013). In each imputed dataset, 5000 bootstrapped samples were used to create 95% confidence intervals for estimates of mediation and moderated mediation for each model. Final point estimates (combined results from imputed datasets) used bias-corrected confidence intervals (Wu & Jia, 2013). Models were run separately for each type of strain (depression, anxiety, stress, and quality of life), with each model testing direct and parallel mediation (indirect) paths for all types of coping and social support. Each model was run separately for the potential moderators of violence/abuse and coercive control, with a significant index of moderated mediation for a path indicating that the mediated path functioned differently in the presence of that type of IPV (Hayes, 2013). To explore these conditional indirect effects, the parameter estimates (slopes) for that mediated path were examined at three levels of the type of IPV: -1 *Standard Deviation* (*SD*), *Mean* (*M*), and $+1$ *SD*. Paths with non-significant indexes of moderated mediation revert to their corresponding mediation paths.

For moderation analyses, multiple regressions were run separately for each type of strain. All variables and interaction terms were entered simultaneously. Significant interactions were examined at -1 *SD* and $+1$ *SD* of addiction stress and the moderator. Finally, all types of coping and social support that were not mediators or moderators, and all types of IPV that did not moderate any mediated paths, were examined to determine whether they additively predicted any strain outcome. Significant direct effects (in the corresponding mediation models) indicated an additive effect.

Results

Participants were 24–63 years old ($M = 33.0$) and likely to be educated, with 90.1% reporting post-high school education and 54.5% having a college degree. The majority (69.4%) worked full time, with a median family income of \$50,000 – \$59,000/year and 56.8% owning their home. Most identified as Caucasian (76.6%), and 21.6% were African-American, 7.2% were Hispanic, and 6.3% were “other.” Nearly 2/3 (65.8%) were from the metropolitan area where data were collected; race/ethnicity was typical of that region ($p > .05$) but participants were more educated ($p < .0001$) yet had similar income ($p = .07$) and were less likely to own their home ($p = .008$) than the population of the metropolitan area (U.S. Census Bureau, 2008–2012). Two-thirds indicated that money was tight, and they struggled to get by.

Almost all of the participants (93.7%) were currently in the relationship at the time they participated, with 56.3% married to their partner and 74.8% living with their partner. The median length of relationship was 5 years (range 0.75 – 44 years, with 79% of relationships being longer than a year). Most partners were male (96.4%), and participants reported that 69.7% had a problem with alcohol, 36.5% with drugs, and 27.9% with gambling. The 30.3% of partners who reportedly had problems with more than one type of addiction were evenly

split between problems with alcohol and drugs, and problems with gambling plus alcohol and/or drugs.

Addiction stress scores were typical of published scores for family members ($M = 29.17$, $SD = 10.14$, Orford et al., 2005), as was participants' use of engaged ($M = 23.16$, $SD = 9.71$), tolerant ($M = 12.71$, $SD = 6.06$), and withdrawal ($M = 12.89$, $SD = 3.74$) coping strategies. However, participants received less informal ($M = 18.77$, $SD = 8.44$), formal ($M = 7.66$, $SD = 4.17$), and negative ($M = 8.84$, $SD = 5.46$) social support than was reported in previous research (Spicer, 2014).

Participants experienced significant strain, with average depression ($M = 8.64$, $SD = 5.51$), anxiety ($M = 7.12$, $SD = 4.94$) and DASS stress scores ($M = 9.23$, $SD = 4.92$) above U.S. norms (Sinclair et al., 2012). Using Niuvenhuijsen, de Boer, Verbeek, Blonk, and van Dijk's (2002) cut scores for depression and anxiety (probable equivalence to DSM 5 diagnosis), 32.9% had clinically significant depression and 66.7% had clinically significant anxiety. Participants' average quality of life ($M = 56.38$, $SD = 19.33$) was lower than the norm for western countries (International Wellbeing Group, 2013).

Many participants had experienced violence/abuse in the past year (Woman Abuse Screening Tool $M = 5.78$, $SD = 3.20$), with 49.8% of participants reporting physical violence, 35.0% reporting sexual violence, and 83.6% reporting emotional abuse. Nearly all participants (90.5%) reported coercive control in the past year, on average experiencing half of the Mediator's Assessment of Safety Issues and Concerns coercive control tactics ($M = 7.51$, $SD = 4.86$).

There were positive associations between most elements of the SSCS model, violence/abuse, and coercive control (see Table 1). There were two exceptions to this pattern. Withdrawal coping and informal social support were unrelated to depression, anxiety, or DASS stress. Moreover, quality of life was negatively related to violence/abuse and coercive control, and to all SSCS model elements except withdrawal coping and informal social support. There were also significant associations between participant demographics and some elements of the SSCS model (see Table 2). Participant age was positively associated with relationship length. Both were positively associated with withdrawal coping, but were negatively associated with tolerant coping, anxiety, violence/abuse, and coercive control.

Tests of mediation hypothesis

For each type of strain (depression, anxiety, stress, and quality of life), addiction stress directly predicted worsened strain (see Table 3). In addition, informal social support mediated the addiction stress-depression relationship: receipt of informal social support predicted lower depression. However, this mediated path was moderated by coercive control (see Supplemental Figure A). That is, informal social support predicted much lower depression when coercive control was low than when coercive control was high, although the amount of informal social support participants received did not vary by coercive control.

Unlike coercive control, however, violence/abuse was not a significant moderator for informal social support, or for any mediated path predicting any type of strain (all 95%

confidence intervals spanned zero). Instead, violence/abuse functioned in an additive (direct) fashion to predict higher depression and anxiety, but not DASS stress or quality of life (see Table 3 and Supplemental Figures A & B).

For anxiety, tolerant coping and both formal and negative social support were significant mediators that predicted increased anxiety (see Table 3). Informal social support was also a significant mediator, predicting lowered anxiety. However, this effect was moderated by coercive control in that it was stronger under low coercive control and weaker under high coercive control (see Supplemental Figure B). For the outcome of DASS stress, no type of coping or social support was a significant mediator. For quality of life, the only significant mediator was informal social support, which predicted higher quality of life. Coercive control did not moderate this path.

Tests of moderation and additive hypotheses

For moderation tests, tolerant coping was a significant moderator of addiction stress on depression, $b = .02$, $p = .01$, see Figure 2. Depression was worse for those extensively using tolerant coping than for those using less tolerant coping, and this difference was much bigger under severe addiction stress than under less severe addiction stress conditions. No other interactions were significant for any type of strain. Finally, no type of coping or social support had additive effects on any type of strain: after accounting for significant mediators and moderators, no remaining types of coping or social support predicted any strain outcome.

Discussion

This study was the first to test all elements of the SSCS theory in a single statistical model, and the first to include IPV within testing of the SSCS model. In general, results were consistent with the SSCS theory, in that some types of social support and coping predicted elevated or lessened strain.

Of the three types of social support, informal social support had the most consistently predicted effect across strain outcomes. It mediated the addiction stress-strain relationship for depression, anxiety, and quality of life, in that a family member receiving informal social support would be expected to experience lower depression and anxiety, and higher quality of life. This is consistent with research about the effects of social support on caregivers of people with addictions (Soares & Periera, 2014) and mental illness (Mackay & Pakenham, 2012). Researchers for both of these studies recommended enhancing caregivers' social support, for instance through support groups. However, additional results from the current study suggest that simply increasing availability of informal social support may not be effective for all CSOs.

In this study, the buffering effect of informal social support on depression and anxiety was smaller under conditions of high coercive control. As coercive control typically includes restricted access to supportive others (Crossman & Hardesty, 2018), it might be expected that CSOs experiencing high coercive control would realize lower benefits from social support because they simply received less of it. But this was not the case, as level of

informal social support was equivalent regardless of coercive control. Instead, it appears that informal social support may be less effective in buffering strain under conditions of high coercive control. Thus, CSOs experiencing high coercive control may not benefit as much from enhanced informal social support.

Unlike coercive control, violence/abuse did not have any bearing on how coping and social support function for CSOs. Instead, it simply predicted worsened depression and anxiety. While it is not clear why violence/abuse was unrelated to the roles of coping and social support in the addiction stress-strain relationship, recent IPV theory and research focus on the salience of coercive control. Theorists suggest that coercive control is at the center of IPV, and the motivator behind violence/abuse (Tanha et al., 2010). Consequently, violence/abuse may be used only as often as necessary to maintain control. Studies of the impact of coercive control on survivors have found that it is as harmful as violence/abuse, and that it may have longer-lasting deleterious effects than violence/abuse (Crossman, Hardesty, & Raffaelli 2016; Williamson, 2010). The current results are consistent with the emphasis on coercive control in the literature, and they underscore the importance of coercive control to the task of dealing with a loved one's addiction. Social service professionals such as therapists, social workers, or treatment providers should screen CSOs for coercive control as well as violence/abuse, and should work with CSOs who experience coercive control to determine which interventions and/or sources of support would be most helpful for them.

Regardless of whether or not coercive control is present, the current results do not indicate whether or how increasing access to formal sources of support might be helpful to reduce strain for intimate partners or other family members. For participants, receipt of formal social support predicted elevated anxiety but was not a significant mediator or moderator for any other strain outcome. Although family members have reported that it is beneficial to talk with social service professionals (McCann & Lubman, 2018), it is understandable that tackling the family situation through frank discussions with a professional could be anxiety-provoking. An alternate explanation is that CSOs experiencing higher anxiety due to severe addiction stress may be more likely to seek formal assistance. It is not possible to distinguish between these explanations with the current cross-sectional study. Longitudinal research is needed to explore this unexpected finding, and to determine whether and how seeking formal assistance may ultimately lead to better outcomes for CSOs, despite initial anxiety.

In addition to social support, coping is also integral to the SSCS model. Extensive use of tolerant coping is theorized to predict elevated strain, though it is not yet clear whether this occurs via mediation or moderation (Orford et al., 2019). Results of the current study indicate that tolerant coping may act both as a mediator (for anxiety) and as a moderator (for depression). That is, the mechanism of this predicted effect may vary by strain outcome.

Though tolerant coping predicts elevated strain, nonetheless CSOs may continue to use it for purposes other than strain reduction. For instance, one study reported that CSOs of people with gambling problems used coping strategies similar to tolerant coping to enhance day-to-day family well-being (Côte, Tremblay, & Brunelle, 2018). Another study found that women dealing with IPV and poverty appeared to be passive in the face of these intractable problems, when in fact they were actively using strategies similar to tolerant coping to adjust

to the constantly changing situation (Goodman, Smyth, Borges, & Singer, 2009). So while the current results link tolerant coping with emotional distress, tolerant coping may be helpful to achieve certain goals. Professionals working with CSOs could help their clients examine how they cope, and explore whether strategies other than tolerant coping might accomplish clients' goals at a lower cost.

Two other types of coping – withdrawal and engaged – were not significant in any hypothesis test (mediation, moderation, or additive) with any strain outcome. The lack of significant results for withdrawal coping is consistent with another formal test of coping in the SCSS model (Horvath & Urban, 2019). Studies of an intervention based on the SSCS model (the 5-Step Method) also typically find that withdrawal coping remains unchanged despite reductions in strain (Copello, Templeton, Orford, & Velleman, 2010). Copello and colleagues hypothesized that withdrawal coping remains unchanged due to inverse changes to the two aspects of withdrawal. One aspect of withdrawal – independence, or refocusing on oneself, enjoyable activities, and positive aspects of life – may be a key component of mental health and well-being for CSOs (McCann & Lubman, 2018). The other aspect of withdrawal – avoidance – seems to be situationally beneficial. For instance, in one study CSOs reported that strategic disengagement when their loved one was drinking or using drugs was helpful in averting substance-related IPV (McCann et al., 2017). Conversely, across-the-board avoidance (i.e., denial) predicted CSO distress in another study (Mackay & Pakenham, 2012). Together these results suggest that withdrawal coping is complex, and situationally dependent.

The lack of significant results for engaged coping in the current study adds to already-contradictory results in the literature: engaged coping has been shown to predict both increased strain (Orford et al, 2019) and reduced strain (Horvath & Urban, 2019). Small sample sizes, different conceptualizations of strain in each study, and cultural differences may partially explain these divergent results. However, together these results also suggest that engaged coping may function differently for various types of strain. Indeed, Wilson, Lubman, Rodda, Manning, & Yap (2018b) posit that each of the three types of coping could be helpful or unhelpful, and that their functionality is dependent on the situation, the desired outcome, and on how coping is used.

In the current study, no type of coping was associated with the final strain outcome, quality of life. Quality of life is a multifaceted phenomenon encompassing well-being in many aspects of life (Birkeland et al., 2018), and as such is more than the absence of distress. Simply coping with a problem, especially a recurring problem such as addiction, may not be enough to promote improved quality of life. CSOs may need to learn new coping strategies and/or get help such as informal social support or other outside assistance to bolster resilience and improve their quality of life.

Implications

Study participants were likely to report experiencing IPV and significant psychological distress, suggesting that many CSOs may be in need of professional assistance. Addiction treatment programs should consider how they may assist CSOs of clients. Programs that focus on CSOs' needs (such as the 5-Step Method; Copello et al., 2010) may be appropriate.

Although CSOs of people with untreated addictions may not encounter treatment professionals, some are likely to be present in the caseloads of other types of social service professionals (Whitaker, Weismiller, & Clark, 2006), who may also assist them.

The high rate of clinically significant anxiety and depression among study participants indicates that professionals working with family members should screen them for mental health needs, and connect them with appropriate treatment if warranted. Professionals should also screen family members for both violence/abuse and coercive control. IPV-specific support services such as safety planning or legal assistance may be helpful for those experiencing IPV. Moreover, as this study found that the predicted buffering effects of informal social support may be smaller when coercive control is present, CSOs experiencing high coercive control may need additional or different types of services or support to help them to deal effectively with their loved one's addiction. It is not yet clear what these services may be, however, as research into effective coping with coercive control is not well developed in comparison to the robust body of research about violence/abuse. Until the evidence base about effective ways to cope with coercive control is more developed, flexible services for CSOs would be ideal, as they would be able to choose assistance that best suited their needs.

More studies are needed to examine whether violence/abuse is primarily an additional stressor on CSOs (as in this study), or if it functions differently for other populations of CSOs. It would also be helpful to examine violence/abuse and coercive control with other strain outcomes, especially positive outcomes. Future research should investigate resilience in CSOs experiencing coercive control, with the goal of adapting and evaluating existing practices and/or developing new evidence-based practices to support this vulnerable population. In addition, longitudinal research is needed to untangle contextual and situational influences on use and effectiveness of coping among CSOs. Researchers might focus on CSOs' reasons for choosing a coping strategy, what goals they were attempting to accomplish, the degree to which the coping strategy achieved the goal, and unintended consequences.

Strengths and limitations

Participants were similar to the population in the metropolitan area where data were collected, but this study should be repeated in multiple locations with diverse populations to ensure generalizability. The number of participants is a limitation, as the study may have been under-powered to detect small effects. The limited power also precluded controlling for participant demographics in analyses. Another limitation of this study was that there were many invalid surveys due to apparent attempts at ballot-box stuffing on two occasions. An extensive validation process was used to remediate this problem, but it was undoubtedly imperfect. A third limitation is that survey instructions did not direct participants whose relationship was shorter than a year to answer the questions about the entire duration of the relationship. Finally, a strength of this study is that it examined the predicted effects of coping and social support on different strain outcomes than those used in previous research, and investigated the salience of IPV to the process of dealing with a loved one's addiction.

The results add further support to the SSCS model and extend knowledge about the importance of coercive control in families affected by a loved one's addiction.

Conclusion

This study enhances our understanding of how CSOs deal with loved ones' addictions and related problems. It was the first to test the full SSCS model with sophisticated methods. It is also unique in investigating the importance of IPV for intimate partners. The high rates of violence/abuse and coercive control among participants suggest that professionals should screen CSOs for both types of IPV, and customize services as needed to promote client safety and well-being. Moreover, the functionality and predicted effectiveness of coping and social support for CSOs may be contextually dependent on coercive control. Further development of flexible evidence-based practices would enable professionals to meet diverse clients' needs. The results of this study will inform the development of targeted and more effective interventions and resources for families adversely affected by addiction.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1.
 Proposed Adaptation to Stress-Strain-Coping-Support Model (Orford et al., 2010).
 Moderated Mediation Model Showing Coping and Social Support Mediating the Addiction
 Stress-Strain Relationship, and Possible Moderating Influence of Intimate Partner Violence.

Figure 2.
Interaction of Addiction Stress and Tolerant Coping on Depression.

Table 1.

Associations between Addiction Stress, Strain Outcomes, Coping, Social Support, Violence/abuse, and Coercive Control

	1	2	3	4	5	6	7	8	9	10	11	12
1. Addiction stress	--											
2 Engaged coping	.69 *	--										
3. Tolerant coping	.65 *	.65 *	--									
4. Withdrawal coping	.34 *	.24 *	.19 *	--								
5. Informal social support	.29 *	.28 *	.14 *	.33 *	--							
6. Formal social support	.51 *	.47 *	.49 *	.31 *	.47 *	--						
7. Negative social support	.57 *	.48 *	.54 *	.21 *	.27 *	.56 *	--					
8. Depression	.55 *	.39 *	.49 *	.13	.05	.36 *	.43 *	--				
9. Anxiety	.50 *	.33 *	.51 *	.06	-.01	.40 *	.48 *	.73 *	--			
10. Stress	.48 *	.34 *	.42 *	.12	.13	.34 *	.38 *	.79 *	.77 *	--		
11. Quality of life	-.47 *	-.25 *	-.31 *	.14 *	.10 *	-.16 *	-.31 *	-.54 *	-.36 *	-.44 *	--	
12. Violence/abuse	.57 *	.35 *	.49 *	.21 *	-.04	.41 *	.51 *	.49 *	.50 *	.40 *	-.35 *	--
13. Coercive control	.52 *	.35 *	.52 *	.16 *	-.04	.42 *	.56 *	.37 *	.51 *	.33 *	-.30 *	.65 *

Note: all correlation coefficients in Table 1 are Pearson's r

* Significant, $p < .05$

Table 2.

Associations between Participant Demographics and Addiction Stress, Strain Outcomes, Coping, Social Support, Violence/abuse, and Coercive Control

	Participant age	Relationship length	Household income	Education [†]
Participant age	--			
Relationship length	.56 [*]	--		
Household income	.14 [*]	.27 [*]	--	
Education [†]	-.04	.04	.22 [*]	--
1. Addiction stress	-.08	-.16 [*]	-.14 [*]	-.14
2 Engaged coping	-.14 [*]	-.08	-.04	.04
3. Tolerant coping	-.14 [*]	-.15 [*]	-.002	.06
4. Withdrawal coping	.22 [*]	.14 [*]	.03	.09
5. Informal social support	.11	.03	-.01	.11
6. Formal social support	-.01	-.11	.04	.12
7. Negative social support	-.11	-.23 [*]	-.17 [*]	-.01
8. Depression	-.13	-.12	-.08	.05
9. Anxiety	-.25 [*]	-.21 [*]	.02	-.04
10. Stress	-.20 [*]	-.08	-.01	.06
11. Quality of life	.07	.13	.23 [*]	.10
12. Violence/abuse	-.18 [*]	-.25 [*]	-.06	-.03
13. Coercive control	-.23 [*]	-.32 [*]	.09	-.06

[†] Education uses Spearman's *rho* correlation coefficients. All other coefficients are Pearson's *r*.

^{*} Significant, $p < .05$

Table 3.

Mediation of Coping and Social Support, and Coercive Control-Moderated Mediation, for all Strain Outcomes

Outcome and effect	Index of moderated mediation	Bias-corrected 95% confidence interval	Point estimate (<i>b</i>)	Bias-corrected 95% confidence interval
OUTCOME: DEPRESSION				
Direct effect of addiction			0.223 *	(0.126, 0.324)
Direct effect of violence/abuse			0.287 *	(0.032, 0.541)
Indirect (mediated) effects				
Engaged coping	0.0007	(-0.001, 0.005)	-0.021	(-0.084, 0.049)
Tolerant coping	-0.0003	(-0.0037, 0.001)	0.045	(-0.007, 0.105)
Withdrawal coping	-4e ⁻²²	(-0.001, 0.001)	-0.007	(-0.035, 0.015)
Informal social support	0.002 *	(0.0002, 0.007)		
@ low coercive control			-0.044 *	(-0.093, -0.008)
@ mean coercive control			-0.032 *	(-0.072, -0.006)
@ high coercive control			-0.019 *	(-0.056, -0.0004)
Formal social support	-0.001	(-0.003, 0.001)	0.024	(-0.007, 0.063)
Negative social support	0.0007	(-0.0005, 0.004)	0.027	(-0.006, 0.069)
OUTCOME: ANXIETY				
Direct effect of addiction			0.160 *	(0.074, 0.248)
Direct effect of violence/abuse			0.234 *	(0.013, 0.454)
Indirect (mediated) effects				
Engaged coping	0.002	(-0.0001, 0.006)	-0.050	(-0.108, 0.006)
Tolerant coping	-0.0003	(-0.003, 0.002)	0.058 *	(0.016, 0.111)
Withdrawal coping	-3e ⁻⁵	(-0.002, 0.001)	-0.017	(-0.049, 0.993)
Informal social support	0.003 *	(0.0003, 0.008)		
@ low coercive control			-0.054 *	(-0.102, -0.017)
@ mean coercive control			-0.041 *	(-0.080, -0.014)
@ high coercive control			-0.026 *	(-0.066, -0.004)
Formal social support	-0.001	(-0.004, 0.002)	0.040 *	(0.010, 0.081)
Negative social support	0.0009	(-0.001, 0.004)	0.038 *	(0.008, 0.078)
OUTCOME: STRESS				
Direct effect of addiction			0.175 *	(0.08, 0.27)
Direct effect of violence/abuse			0.199	(-0.046, 0.443)
Indirect (mediated) effects				
Engaged coping	0.001	(-0.0008, 0.005)	-0.031	(-0.10, 0.04)
Tolerant coping	-0.0003	(-0.0034, 0.001)	0.052	(-0.01, 0.12)
Withdrawal coping	-1e ⁻⁵	(-0.001, 0.001)	-0.009	(-0.03, 0.01)
Informal social support	0.0003	(-0.002, 0.003)	-0.003	(-0.03, 0.02)
Formal social support	-0.0004	(-0.0036, 0.0005)	0.024	(-0.02, 0.07)

Outcome and effect	Index of moderated mediation	Bias-corrected 95% confidence interval	Point estimate (<i>b</i>)	Bias-corrected 95% confidence interval
Negative social support	0.0004	(−0.0005, 0.003)	0.025	(−0.02, 0.07)
OUTCOME: QUALITY OF LIFE				
Direct effect of addiction			−1.101 *	(−1.46, −0.75)
Direct effect of violence/abuse			0.006	(−0.095, 0.106)
Indirect (mediated) effects				
Engaged coping	−0.0004	(−0.0016, 0.0002)	0.183	(−0.06, 0.42)
Tolerant coping	0.0	(−0.0004, 0.0004)	−0.021	(−0.24, 0.19)
Withdrawal coping	0.0	(−0.0004, 0.0004)	−0.026	(−0.12, 0.06)
Informal social support	−0.0009	(−0.002, 0.0007)	0.148 *	(0.07, 0.27)
Formal social support	−9e ^{−6}	(−0.0006, 0.0005)	0.047	(−0.12, 0.23)
Negative social support	−0.0003	(−0.0015, 0.0001)	−0.137	(−0.32, 0.04)

* Significant at $\alpha = .05$