Published in final edited form as:

J Pers Soc Psychol. 2011 May ; 100(5): 934–946. doi:10.1037/a0022873.

Goal Adjustment Capacities, Coping, and Subjective Well-Being: The Sample Case of Caregiving For a Family Member With Mental Illness

Carsten Wrosch,

Department of Psychology, Centre for Research in Human Development, Concordia University,
Montreal, Quebec, Canada

Ella Amir, and

Department of Psychology, Centre for Research in Human Development, Concordia University,
Montreal, Quebec, Canada

Gregory E. Miller

Department of Psychology, University of British Columbia, Vancouver, British Columbia, Canada

Abstract

This study examined the associations between goal adjustment capacities, coping, and indicators of subjective well-being in two waves of data from individuals who provide care for a family member with mental illness. We hypothesized that goal adjustment capacities would predict higher levels of subjective well-being by facilitating coping with caregiving stress. Results showed that goal disengagement was associated with effective care-specific coping (e.g., less self-blame and substance use). Goal reengagement was also associated with effective care-specific coping (e.g., positive reframing), but at the same time it predicted the use of less useful strategies (e.g., venting and self-distraction). Moreover, goal disengagement predicted lower levels of caregiver burden and depressive symptoms, and buffered the longitudinal effect of caregiver burden on increases in depressive symptoms. Goal reengagement, by contrast, predicted higher levels of caregiver burden and purpose in life, and buffered the cross-sectional association between caregiver burden and depressive symptoms. Finally, effective (and less useful) care-specific coping statistically explained the adaptive (and maladaptive) effects of goal adjustment capacities on participants' well-being.

Research suggests that people's capacities to disengage from unattainable goals and to reengage in other new goals predict high levels of subjective well-being (Brandtstädter & Renner, 1990; Wrosch & Miller, 2009; Wrosch, Miller, Scheier, & Brun de Pontet, 2007; Wrosch, Scheier, Miller, Schulz, & Carver, 2003). While these effects have been attributed to the emotional benefits that derive from avoiding repeated failure and pursuing new meaningful activities (Wrosch, 2011), the specific self-regulatory mechanisms that link goal adjustment capacities with indicators of subjective well-being have not yet been identified. To address this gap in the literature, we reasoned that goal disengagement and goal

Mailing address: Carsten Wrosch, Department of Psychology, Centre for Research in Human Development, Concordia University, 7141 Sherbrooke St. West, Montreal, QC, H4B 1R6, Canada, Carsten.wrosch@concordia.ca, Phone: (514) 848-2424, ext. 2231.

Publisher's Disclaimer: The following manuscript is the final accepted manuscript. It has not been subjected to the final copyediting, fact-checking, and proofreading required for formal publication. It is not the definitive, publisher-authenticated version. The American Psychological Association and its Council of Editors disclaim any responsibility or liabilities for errors or omissions of this manuscript version, any version derived from this manuscript by NIH, or other third parties. The published version is available at www.apa.org/pubs/journals/psp

reengagement capacities would determine how individuals cope with chronically stressful situations that constrain goal-related activities. Specifically, we hypothesized that the use of specific coping strategies may mediate the association between goal adjustment capacities and indicators of subjective well-being.

Here, we test this hypothesis in two waves of data from a sample of adult caregivers of a family member with mental illness. Such chronically stressful life circumstances can render desired goals unattainable. Because of these constraints, we expected the highest levels of subjective well-being to emerge among caregivers who had the capacity to disengage from unattainable goals and to reengage in new ones. We further expected these effects to be mediated through effective coping in caregiving-related situations.

Goal Adjustment Capacities, Coping, and Subjective Well-Being

Theories of adaptive self-regulation postulate that personal goals structure people's lives, motivate adaptive behaviors, and contribute to high levels of subjective well-being (Carver & Scheier, 1981, 1998; Emmons, 1985; Heckhausen, Wrosch, & Schulz, 2010). At times, however, individuals confront challenges that render the attainment of desired goals impossible and compromise their subjective well-being (e.g., getting older, having to care for a sick child, or becoming unemployed, Carver & Scheier, 1998; Wrosch et al., 2003, 2007). Despite these adverse consequences of goal failure, it has also been suggested that challenge and failure can provide opportunities for adaptive development (King & Hicks, 2007) and some individuals may thrive in problematic situations if they effectively regulate the experience of unattainable goals (Wrosch et al., 2003). Such adaptive effects are thought to depend on individual differences in two self-regulation capacities, which can influence whether goal failure compromises subjective well-being. These self-regulation capacities are associated with goal disengagement and entail the tendency to withdraw effort and commitment from an unattainable goal. In addition, they involve the tendency to reengage in alternative goals when unattainable goals are encountered, which incorporates the identification of, commitment to, and pursuit of alternative goals (Wrosch et al., 2003, 2007).

In support of these ideas, cross-sectional and longitudinal research has demonstrated that goal disengagement capacities can predict lower, and reduced, levels of depressive symptoms or negative affect, while goal reengagement capacities have been associated frequently with greater purpose in life and higher levels of positive emotions (Bauer, 2004; O'Connor & Forgan 2007; Wrosch et al., 2003, 2007, 2009). These effects have been explained by the primary function of goal disengagement capacities, which is to prevent accumulated failure and the associated emotional distress. Goal reengagement capacities, by contrast, are mainly directed at the pursuit of new purposeful goals, which is thought to increase positive aspects of subjective well-being (Wrosch et al., 2007).¹

Although the literature suggests that goal adjustment capacities have a beneficial influence on subjective well-being, the specific mechanisms underlying this link have not yet been examined. Such an association could derive from the direct emotional benefits of avoiding the experience of failure and pursuing new meaningful goals. However, it is also possible that goal adjustment capacities serve other functions in the self-regulation of behavior that could influence subjective well-being. In this regard, they could facilitate the engagement in

¹Some studies have shown deviations from this pattern of results, in that goal reengagement can be associated with lower levels of negative mood, and goal disengagement can predict positive indicators of subjective well-being (Wrosch et al., 2003, 2007). Such associations may occur when goal disengagement provides resources that facilitate the pursuit of other new goals, and goal reengagement reduces some of the negative emotions deriving from the continued pursuit of an unattainable goal (Carver & Scheier, 1990; Wrosch et al., 2003, 2007).

behavioral processes that are useful for effectively addressing the stressful circumstances that have rendered desired goals unattainable. This idea would be consistent with research among parents of children with cancer, which theorized that the emotional benefits of adaptive goal adjustment capacities could be due to the possibility that participants redirected resources to managing these stressful circumstances more effectively (Wrosch et al., 2003).

In fact, such processes could contribute to the association between goal adjustment capacities and subjective well-being, and are generally referred to as *coping*. They typically include cognitive and behavioral strategies that are activated to overcome problematic life circumstances (e.g., planning or problem solving). In addition, coping strategies are used to manage the emotional consequences of stressful encounters (Carver, Scheier, & Weintraub, 1989; Folkman, 1997; Lazarus & Folkman, 1984). Some emotion-focused coping strategies, such as positive reframing, acceptance, or religion, can protect the self and contribute to meaning in life (Culver, Arena, Antoni, & Carver, 2002; Folkman, 1997; Folkman & Lazarus, 1988), particularly if a problem is unlikely to be resolved (cf. Heckhausen, Wrosch, & Schulz, 2010). However, other emotion-focused coping strategies, such as denial, substance use, or venting, are often less useful and have been associated with undesirable outcomes (Carver, Scheier, & Weintraub, 1989; Culver, Arena, Antoni, & Carver, 2002; Folkman & Lazarus, 1988).

We argue that goal adjustment capacities are likely to be associated with specific coping strategies, and that such links are particularly strong when individuals confront stressful life circumstances (e.g., caring for a sick child or parent or not having sufficient financial resources). In such situations, individuals may need to focus their time and energy on managing the stressor, which may interfere with their ability to attain other desired goals (e.g., career development, going on vacation, or buying a new car, see Wrosch et al., 2003). Thus, individuals who tend to persist in the pursuit of unattainable goals may feel that they should have directed more energy at addressing the stressor and blame themselves for recurring problems. In addition, they are likely to deplete their self-regulation resources, which could interfere with managing the stressful circumstances (Baumeister, Bratlavsky, Muraven, & Tice, 1998; Baumeister, Schmeichel, & Vohs, 2007). Such a lack of self-regulation resources could contribute to problems with active coping, but also to maladaptive behaviors associated with the urge to respond to emotionally difficult circumstances (e.g., problematic interpersonal behaviors, see DeWall, Baumeister, Stillman, & Gailliot, 2005). By contrast, individuals who are able to disengage from unattainable goals may use their resources more effectively to address the stressful life circumstances. Moreover, they may be less likely to engage in maladaptive coping strategies, and even if overcoming the stressor proves to be difficult, they may not blame themselves for occurring problems.

In similar vein, it is also possible that individuals who have an easier time identifying and pursuing new goals are more successful at appropriately replacing the goals that have become unattainable due to a chronic stressor (e.g., changing career paths to make more time). This process could free resources needed to address the stressor and alleviate the perceived impact of the stressor on a person's life, thus contributing to a more positive evaluation of a problematic situation (Folkman, 1997; Folkman & Moskowitz, 2000). By contrast, individuals who cannot identify new goals may feel that they have lost control over their development, have a difficult time accepting the stress-related life circumstances, and engage in maladaptive coping to regulate their emotions. However, we note that there is also some evidence suggesting that individuals can become stretched too thin if they pursue too many goals, which could have negative repercussions on the management of stressful life circumstances. For example, adults who pursued many alternative goals have been shown to

experience intense life regrets, supposedly because they do not have sufficient resources to successfully address their regrets (Wrosch, Bauer, & Scheier, 2005). Thus, goal reengagement could also be associated with a lack of self-regulation resources and maladaptive coping strategies, which could compromise levels of subjective well-being.

Caregiving For a Family Member With Mental Illness

To start examining the idea of functional associations between goal adjustment capacities, coping, and subjective well-being, we reasoned that providing care for a family member with mental illness involves placing personal needs and goals after those of the relative (Baronet, 1999), and therefore represents a chronic stressor that can render desired goals unattainable. In addition, caregiving for a sick family member has been shown to compromise levels of subjective well-being (e.g., depressive symptoms, Ory, Hoffman III, Yee, et al., 1999; Schulz, O'Brien, Bookwala, & Fleissner, 1995), and this effect can be pronounced among individuals who experience high levels of care-related strain or burden (Grunfeld, Coyle, Whelan, et al., 2004; Schulz, Newsom, Mittelmark, et al., 1997). Moreover, cross-sectional and longitudinal studies suggest that effective coping (e.g., acceptance, positive reframing, active coping, or planning) can be associated with less burden and higher levels of emotional well-being among caregivers of mentally-ill relatives. By contrast, coping strategies, such as self-blame, venting, denial, avoidance, or resignation, have been associated with higher levels of emotional problems (Dyck, Short, & Vitaliano, 1999; Kim, Schulz, & Carver, 2007; Magliano, Fadden, Economou, et al., 2000; Pratt, Schmall, Wright, & Cleland, 1985; Rose, 1996; Seltzer, Greenberg, & Krauss, 1995). Finally, research has documented that the use of effective coping strategies (i.e., positive reinterpretation or planning) can buffer the adverse effect of high caregiving demands on elevated levels of depressive symptoms (Seltzer, Greenberg, & Krauss, 1995).

These findings lend support to the idea that goal adjustment capacities and coping could contribute to the subjective well-being among individuals who provide care for a mentally ill family member. In addition, they suggest that the experience of burden plays an important role in compromising a caregiver's subjective well-being (Grunfeld et al., 2004; Schulz et al., 1997). Thus, it seems important to conceptualize the potential pathways linking self-regulation, caregiver burden, and subjective well-being. To this end, we can imagine two different scenarios for how caregiver burden and self-regulation could operate together to influence subjective well-being. First, caregiver burden could mediate the associations between adaptive self-regulation and a person's general subjective well-being. In this scenario, goal adjustment capacities could promote effective coping with caregiving stress, which in turn is likely to reduce caregiver burden and to increase levels of subjective well-being.

In addition, we suggest that levels of caregiver burden can be, at times, somewhat independent from a person's goal adjustment capacities or coping strategies. Such variability could occur if caregivers with good or poor goal adjustment capacities confront circumstances that further increase their levels of caregiving burden. For example, there are times when a family member's illness suddenly takes a turn for the worse, or when stressors in other domains of life crop up unexpectedly (e.g., the caregiver has relationship difficulties or work-related problems). In these situations, it is likely that adaptive self-regulation becomes paramount for maintaining subjective well-being (Seltzer et al., 1995). Here, goal adjustment capacities, and the coping strategies they foster, could exert a buffering influence (in statistical terms, a moderation effect). They may help to prevent the spillover effect that high levels of caregiving burden can exert on subjective well-being. To summarize, this analysis suggests that caregiver burden could function in two different ways -either as a downstream mediator of the associations between adaptive self-regulation and subjective well-being, or in interaction with self-regulation, rendering the influence of self-regulatory

processes on well-being even more potent. Note that these scenarios are not mutually exclusive – both could be operating simultaneously.

The Present Research

This research examined the associations between goal adjustment capacities, coping, and indicators of subjective well-being among adult caregivers of a family member diagnosed with mental illness. Based on the assumption that such a chronic stressor can render the attainment of desired goals impossible, we first hypothesized that goal disengagement capacities would be associated with the use of effective care-specific coping strategies. We also expected goal reengagement capacities to be associated with effective coping, although we considered the alternative possibility that engagement in other new goals could also deplete self-regulation resources and predict dysfunctional coping strategies. Second, we expected that adaptive goal adjustment capacities would exert beneficial cross-sectional and longitudinal effects on caregiving-specific (i.e., low caregiver burden) and general indicators of subjective well-being (i.e., low depressive symptoms and high purpose in life). In this regard, we further explored whether the effects of goal adjustment capacities on general indicators of subjective well-being would be mediated by caregiver burden and whether goal adjustment capacities would buffer the associations between caregiver burden and general indicators of subjective well-being. Finally, we examined whether care-specific coping strategies could qualify as mediators and statistically explain the cross-sectional and longitudinal effects of goal adjustment capacities on indicators of subjective well-being.

To avoid spurious associations, we evaluated our hypotheses by statistically controlling the analyses for a number of covariates that have been shown in previous research to predict caregiver burden, self-regulation constructs, or subjective well-being. The covariates included participants' age, sex, educational level, partnership status, chronic health problems, and their reports of the relative's illness severity as well as the years since their relative's first diagnosis (see Pinquart & Sörensen, 2003; Pratt et al., 1985; Wrosch et al., 2003).

Method

Participants and Procedures

We recruited 153 caregivers of family members with mental illness into the study. Letters were sent to the membership of "AMI-Quebec Action on Mental Illness", which is an independent and governmentally-supported organization that provides support to predominantly English-speaking families in Quebec, Canada, who deal with mental illness. The study was approved by the board of AMI-Quebec and Concordia University's human ethics board. Questionnaire packages were sent to AMI members who agreed to participate in the study. Of the 153 AMI members who participated in the study, 6 participants were excluded from analyses presented herein.² Approximately 17 months ($M = 16.80$, $SD = 1.24$) after the baseline assessment, participants were contacted again and asked to respond to another questionnaire. One-hundred-twenty-one of the original 147 caregivers participated in the follow-up (82%). Study attrition was not significantly associated with most of the study's baseline measures (i.e., depressive symptoms, purpose, caregiver burden, 12 of the 14 coping strategies, goal adjustment capacities, chronic illness, caregivers' age, sex, education, and partnership status, and caregivers' reports of their relatives' illness severity and time since first diagnosis). However, participants who dropped out of the study reported significantly lower baseline levels of using instrumental support ($M = 3.04$, $SD =$

²These six participants were excluded because their relatives were either deceased or they misunderstood the instructions and did not produce usable data.

1.82) and acceptance ($M = 3.85$, $SD = 1.57$) to cope with caregiving stress, than their counterparts who continued their participation (instrumental support: $M = 3.82$, $SD = 1.61$, $t(145) = 2.20$, $p = .03$; acceptance: $M = 4.47$, $SD = 1.36$; $t(145) = 2.06$, $p = .04$).

At baseline, the 147 participants were on average 60.73 years old ($SD = 12.35$), 78% were female, 57% received an undergraduate degree or higher (masters or doctorate = 22%, bachelor = 35%, trade school = 26%, high school = 15%, grade school = 1%), and 73% were married (65%) or cohabitating with a partner (8%). According to the caregivers' reports, their relatives were first diagnosed with a mental illness, on average, 15.73 years ago ($SD = 11.03$). Forty-one percent of their relatives were diagnosed with schizophrenia, 37% with a mood disorder, and 22% with other mental disorders (OCD, ADHD, mixed diagnosis, or unknown).³

Materials

The main study variables included repeated measures of participants' depressive symptoms purpose in life, and caregiver burden. In addition, goal adjustment capacities, coping with caregiving stress, and relevant covariates (caregivers' age, sex, education, partnership status, and chronic health problems, and perceptions of their relatives' illness severity and time since first diagnosis) were assessed at baseline.⁴

Depressive symptomatology was measured with the 20-item *Center for Epidemiological Studies Depression Scale* (CES-D, Radloff, 1977). Participants were asked to rate how frequent they had experienced each of twenty depressive symptoms during the past week on 4-point Likert-type scales (0 = *less than one day*, 3 = *5–7 days*). Sample items included: *I felt depressed* or *I felt that everything I did was an effort*. We computed sum scores of the twenty depressive symptoms separately for baseline, $M = 9.76$, $SD = 9.16$, $\alpha = .90$, and follow-up, $M = 9.82$, $SD = 8.91$, $\alpha = .89$. Depressive symptoms were significantly correlated across measurements, $r = .62$, $p < .01$, and did not increase significantly over time, $t(120) = 1.36$, $p = .17$.

Purpose in life was assessed by administering the previously validated *Life Engagement Test* (Scheier et al., 2006). This scale consists of 6 items measuring the extent to which people engage in personally valued activities. Participants were asked to indicate their level of agreement with these items, using 5-point Likert-type scales (1 = *strongly disagree*, 5 = *strongly agree*). Sample items included: *There is not enough purpose in my life* or *I have lots of reasons for living*. We computed sum scores of the six items separately for baseline, $M = 25.16$, $SD = 3.71$, $\alpha = .81$, and follow-up, $M = 25.08$, $SD = 3.28$, $\alpha = .72$. High scores on the scale indicated high levels of purpose in life. Purpose in life was correlated across assessments, $r = .61$, $p < .01$, and did not change significantly over time, $t(120) = -1.07$, $p = .29$.

Caregiver burden was assessed by using the 22-item *Burden Interview* (BI; Zarit & Zarit, 1987), which is a widely used measure of burden among caregivers. We adjusted the wording of the original items, in an attempt to make them more specific to caregiving for relatives with mental illness (e.g., *How often do you feel strained when you are with your relative?* or *How often do you feel that your relative is dependent on you?*). The twenty-two items were answered by the participants, using 5-point Likert-type scales (endpoints: 0 =

³We did not include type of diagnosis as a covariate into our analyses because reviews suggests that it may not contribute to caregiver burden (e.g., Baronet, 1999). However, we note that including type of diagnosis into the analyses would not have changed the observed pattern of results.

⁴Our data incorporated only a small number of missing data (less than 2% in both waves), and we replaced these missing data with the sample means before computing the scales.

never; 4 = *nearly always*), and we computed a sum score of the 22 items. Higher values indicated greater caregiver burden. The average level of caregiver burden in the current sample was 32.88 ($SD = 15.33$; $\alpha = .93$) at baseline and 30.89 ($SD = 14.61$, $\alpha = .93$) at follow-up. Caregiver burden was significantly correlated across measurements, $r = .75$, $p < .01$, and declined across time, $t(120) = -2.28$, $p = .02$. As compared to normative Canadian data of elderly dementia caregivers, the average baseline level of burden in the current sample can be characterized as high to severe burden (i.e., 75th percentile, Hebert, Bravo, & Preville, 2000).

Coping with stressful caregiving situation was measured by administering the *Brief Cope* (Carver, 1997). This scale was created to minimize burden in vulnerable populations and represents an abbreviated version of the full instrument (Carver, Scheier, & Weintraub, 1989). The Brief Cope included 28 items assessing 14 different coping strategies. Participants were asked to report whether they have been engaging in specific coping behaviors to manage the stress associated with caring for their relative with mental illness. The coping strategies were measured with 4-point Likert-type scales (endpoints 0 = *I haven't been doing this at all*, 4 = *I have been doing this a lot*). For each of the 14 types of coping strategies, we computed a sum score of the 2 associated items, which were significantly correlated with each other: active coping (e.g., *I take action to try to make the situation better*, $r = .46$, $p < .01$, $M = 4.50$, $SD = 1.42$), planning (e.g., *I think hard about what steps to take*, $r = .65$, $p < .01$, $M = 4.40$, $SD = 1.63$), use of instrumental support (e.g., *I get help and advice from other people*, $r = .71$, $p < .01$, $M = 3.68$, $SD = 1.67$), behavioral disengagement (e.g., *I give up the attempt to cope*, $r = .48$, $p < .01$, $M = .69$, $SD = 1.11$), positive reframing (e.g., *I try to see it in a different light, to make it seem more positive*, $r = .47$, $p < .01$, $M = 3.26$, $SD = 1.73$), acceptance (e.g., *I learn to live with it*, $r = .32$, $p < .01$, $M = 4.36$, $SD = 1.41$), self-blame (e.g., *I blame myself for things that happen*, $r = .52$, $p < .01$, $M = 1.46$, $SD = 1.38$), humor (e.g., *I make jokes about it*, $r = .57$, $p < .01$, $M = 1.39$, $SD = 1.50$), religion (e.g., *I pray or meditate*, $r = .82$, $p < .01$, $M = 2.38$, $SD = 2.28$), use of emotional support (e.g., *I get comfort and understanding from someone*, $r = .51$, $p < .01$, $M = 3.52$, $SD = 1.70$), self-distraction (e.g., *I turn to work or other activities to take my mind off things*, $r = .34$, $p < .01$, $M = 3.71$, $SD = 1.55$), denial (e.g., *I refuse to believe it has happened*, $r = .38$, $p < .01$, $M = .61$, $SD = 1.13$), venting (e.g., *I express my negative feelings*, $r = .41$, $p < .01$, $M = 2.38$, $SD = 1.45$), and substance use (e.g., *I use alcohol or other drugs to make myself feel better*, $r = .76$, $p < .01$, $M = .49$, $SD = 1.06$).

Goal adjustment capacities were measured with the 10-item *Goal Adjustment Scale* (Miller & Wrosch, 2007; Wrosch et al., 2003, 2007, 2009). Participants were asked to report how they usually react when they have to stop pursuing an important goal in their life. Four items measured participants' goal disengagement capacities (e.g., *It's easy for me to reduce my effort towards the goal* or *I stay committed to the goal for a long time; I can't let it go*), and six items measured their goal reengagement capacities (e.g., *I seek other meaningful goals* or *I start working on other new goals*). Responses were measured on 5-point Likert-type scales, ranging from 1 = *strongly disagree*, to 5 = *strongly agree*. Mean scores were computed separately for goal disengagement, $M = 2.81$, $SD = .79$, $\alpha = .75$, and goal reengagement, $M = 3.52$, $SD = .78$, $\alpha = .91$. High scores indicated that participants had an easier time disengaging from unattainable goals and reengaging in new goals. Goal disengagement and goal reengagement capacities were not highly correlated with each other, $r = .33$, $p < .01$.

Covariates—The study also incorporated a number of variables that were used as covariates in the analyses. In this regard, participants' age, sex, educational level, and partnership status was assessed at baseline. Moreover, we measured participants' chronic health problems by counting the presence of 19 different chronic health problems (e.g.,

cancer, high blood pressure, arthritis, or heart disease, $M = 1.88$, $SD = 1.70$). We also asked participants to report how many years ago their relative had their first diagnosis ($M = 15.73$, $SD = 11.03$). Finally, participants rated their relative's illness severity by using a 5-point Likert-type scale, with 5 being the most severe form of illness ($M = 3.16$, $SD = 1.06$).

Results

The study's results are presented in three sections. In the first section, we describe the associations between general goal adjustment capacities and care-specific coping strategies. In the second section, we report the cross-sectional and longitudinal associations between participants' goal adjustment capacities, caregiver burden, and subjective well-being outcomes. In the third section, we examine whether care-specific coping strategies mediate the associations of general goal adjustment capacities with indicators of subjective well-being.

Goal Adjustment Capacities and Coping With Caregiving Stress

To examine whether goal adjustment capacities were associated with effective coping strategies, we computed partial correlations between baseline levels of goal disengagement and goal reengagement capacities and the 14 assessed coping strategies. These analyses controlled for participants' age, sex, education, partnership status, chronic illness, time since relative's first diagnosis, and illness severity.

The results of the analyses are reported in Table 1. The findings showed that goal disengagement capacities were significantly associated with self-blame and substance use. Participants who had an easier time abandoning unattainable goals blamed themselves less frequently for problems associated with caregiving and used alcohol or drugs to regulate their emotions less frequently than their counterparts who had more difficulty with goal disengagement. Goal reengagement capacities were also associated with a number of different care-specific coping strategies (see Table 1). Participants with better goal reengagement capacities engaged more frequently in active coping, planning, use of instrumental support, positive reframing, humor, religion, self-distraction, and venting than participants with poor goal reengagement capacities. Substances, by contrast, were more frequently used by participants with lower, as compared to higher, levels of goal reengagement capacities.

We note that the pattern of results remained highly similar if the covariates were not included in the analyses.⁵ That said, the covariates were significantly associated with participants' coping strategies. In particular, older participants used positive reframing, $r = -.18$, $p = .03$, and humor, $r = -.20$, $p = .01$, less frequently than younger participants. Men, as compared to women, engaged less frequently in planning, $r = -.22$, $p < .01$, instrumental support, $r = -.21$, $p = .01$, positive reframing, $r = -.18$, $p = .03$, religion, $r = -.18$, $p = .03$, self-distraction, $r = -.21$, $p < .01$, and venting, $r = -.21$, $p < .01$. More educated participants accepted the stressful circumstances more frequently than less educated participants, $r = .17$, $p = .03$. Married or cohabiting participants used active coping, $r = .22$, $p < .01$, acceptance, $r = .24$, $p < .01$, and emotional support, $r = .22$, $p < .01$, more frequently, and denial less frequently, $r = -.17$, $p = .03$, than participants without a partner. The relatives' illness severity was associated with more behavioral disengagement, $r = .23$, $p < .01$, and self-blame, $r = .25$, $p < .01$, and the more time had passed since the relatives' first diagnosis, the

⁵Without the inclusion of the covariates, only two additional significant associations emerged: higher levels of goal reengagement capacities were associated with more acceptance, $r = .19$, $p = .02$, and more emotional support, $r = .18$, $p = .02$.

less participants used active coping, $r = -.17$, $p = .04$, instrumental support, $r = -.16$, $p = .05$, and self-blame, $r = -.18$, $p = .03$.

Goal Adjustment Capacities, Caregiver Burden, and Subjective Well-Being

To examine whether goal adjustment capacities were associated with subjective well-being, we performed two sets of cross-sectional and longitudinal regression analyses. In these analyses, we first predicted baseline levels and follow-up levels (controlling for baseline levels) of caregiver burden, depressive symptoms, and purpose in life, from participants' baseline levels of goal disengagement and goal reengagement capacities. Second, we examined whether caregiver burden could explain the observed associations with participants' general subjective well-being. This was done by repeating the analyses of predicting depressive symptoms and purpose in life, and additionally including baseline levels of caregiver burden into the regression models as a mediator (for conducting mediation analyses, see Preacher & Hayes, 2008). In the last step of these analyses, we also included interaction terms between caregiver burden and goal disengagement (and caregiver burden and goal reengagement). These models tested whether goal adjustment capacities moderated the associations between caregiver burden and participants' general subjective well-being. All analyses statistically controlled for the previously described covariates, and the predictor variables were centered prior to conducting the analyses.

The results from the *cross-sectional* analyses revealed that goal disengagement and goal reengagement capacities were significantly associated with indicators of subjective well-being (see Table 2, Model 1). More specifically, to the extent that they had higher baseline levels of goal disengagement capacities, participants experienced lower levels of caregiver burden, $F(1, 137) = 5.32$, $p = .03$, and depressive symptoms, $F(1, 137) = 4.97$, $p = .03$. In addition, higher levels of goal reengagement capacities were associated with higher levels of purpose in life, $F(1, 137) = 8.42$, $p < .01$. Interestingly, however, the results also showed that participants who had an easier time reengaging in new goals experienced greater caregiver burden than their counterparts with poor goal reengagement capacities, $F(1, 137) = 5.18$, $p = .026$.

The subsequent inclusion of baseline levels of caregiver burden into the models demonstrated that it was significantly associated with higher baseline levels of depressive symptoms, $F(1, 136) = 13.93$, $p < .01$, and lower baseline levels of purpose in life, $F(1, 136) = 7.61$, $p < .01$ (see Table 2, Model 2). Consistent with our meditation hypothesis, caregiver burden rendered the main effect of goal disengagement on depressive symptoms non-significant. In fact, caregiver burden exerted a significant indirect effect in the association between goal disengagement and depressive symptoms (95% BCI [-1.52, -.12]).⁷ Together, these findings suggest that participants who were able to disengage from unattainable goals also experienced relatively low levels of caregiver burden, which accounted for their less severe depressive symptoms. That said, there was no evidence that caregiver burden plays a role in mediating the observed association between goal reengagement tendencies and higher purpose in life.

Finally, we found evidence of a significant moderation effect (see Table 2, Model 2). However, it was only apparent in the analyses examining whether caregiver burden and goal reengagement interacted in predicting depressive symptoms, $F(1, 135) = 8.21$, $p < .01$. We

⁶None of the reported analyses in this study showed significant interaction effects between goal disengagement and goal reengagement capacities on outcomes of subjective well-being.

⁷Following the recommendations by Preacher and Hayes (2008), we tested indirect effects using 5000 bootstraps and evaluated an indirect effect as significant if the 95% bias-corrected confidence interval did not cross zero. We note that all significant mediation effects reported in this manuscript also produced significant indirect effects if more traditional Sobel tests were calculated.

illustrated this effect in Figure 1 by plotting the associations between caregiver burden and depressive symptomatology, separately for participants with low versus high levels of goal reengagement capacities (one standard deviation above and below the sample means, see Aiken & West, 1991). The pattern of results suggests that baseline levels of depressive symptoms were particularly elevated among participants who experienced high levels of caregiver burden and had difficulty with goal reengagement. By contrast, depressive symptoms tended to be milder among relatively unburdened caregivers, as well as those caregivers who reported high burden but had an easier time reengaging in new goals. Consistent with this view, analyses of the simple slopes demonstrated that burden was significantly associated with depressive symptoms among caregivers who had difficulties with goal reengagement, $\beta = .50, p < .01$. By contrast, there was no association between these constructs among caregivers with high levels of goal reengagement capacities, $\beta = .11, p = .28$. Moreover, goal reengagement capacities were significantly associated with lower depressive symptoms among relatively burdened caregivers, $\beta = -.34, p < .01$, but not among their less burdened counterparts, $\beta = .05, p = .60$.

We note that the cross-sectional analyses also showed significant associations between the covariates and the outcomes. Participants who were married or cohabitating reported lower levels of caregiver burden, $F(1, 137) = 4.97, \beta = -.19, R^2 = .03, p = .03$, and depressive symptoms, $F(1, 137) = 12.39, \beta = -.29, R^2 = .07, p < .01$, and higher levels of purpose, $F(1, 137) = 5.95, \beta = .22, R^2 = .04, p = .02$, than participants who were divorced, widowed, or not living with a partner. Moreover, older and more educated participants experienced lower levels of depressive symptoms than younger, $F(1, 137) = 6.89, \beta = -.23, R^2 = .04, p = .01$, and less educated $F(1, 137) = 4.32, \beta = -.17, p = .04$, participants. Finally, the severity of care recipients' mental illness was associated with higher levels of caregiver burden, $F(1, 137) = 10.29, \beta = .25, R^2 = .06, p < .01$.

The results from the *longitudinal* analyses showed that baseline levels of the outcomes were significantly associated with follow-up levels of participants' caregiver burden, depressive symptoms, or purpose in life, $F_s(1, 110) > 51.70, \beta_s > .55, R^2_s > .26, p_s < .01$. However, the main effects of baseline levels of goal disengagement or goal reengagement did not significantly predict changes in the outcome variables (see Table 3, Model 1).

The subsequent inclusion of baseline levels of caregiver burden into the models showed that it predicted larger increases in depressive symptoms over time, $F(1, 109) = 4.29, \beta = .15, R^2 = .02, p = .04$, but was not associated with changes in purpose in life (see Table 3, Model 2). In addition, the analyses demonstrated a significant moderation effect, but only for the interaction between caregiver burden and goal disengagement capacities in predicting depressive symptoms, $F(1, 108) = 4.29, \beta = -.14, R^2 = .02, p = .02$.

The significant moderation effect is illustrated in Figure 2, employing the previously described procedures. The pattern of findings suggests that increases in depressive symptoms were observed particularly among caregivers who were relatively highly burdened at baseline and had poor goal disengagement capacities. By contrast, depressive symptoms were fairly stable over time among less burdened caregivers, and highly burdened caregivers who had an easier time disengaging from unattainable goals. Consistent with this interpretation, analyses of simple slopes demonstrated that caregiver burden was significantly associated with increases in depressive symptoms among participants who reported low, $\beta = .28, p < .01$, but not high levels of goal disengagement capacities, $\beta = -.03, p = .78$. Moreover, adaptive goal disengagement capacities were marginally associated with fewer increases in depressive symptoms among caregivers with relatively high, $\beta = -.22, p = .06$, but not low, levels of burden, $\beta = .10, p = .31$.

Finally, we note that the incorporated covariates were largely unrelated to changes in caregiver burden, depressive symptoms, or purpose in life, except for significant effects of partnership status and years since relatives' first diagnosis on changes in depressive symptoms. Participants who did not have a partner and participants whose relatives were diagnosed more recently experienced larger increases in depressive symptoms over time than participants who were married or cohabitating, $F(1, 110) = 4.16$, $\beta = -.16$, $R^2 = .02$, $p = .02$, or whose relatives' first diagnosis occurred longer ago, $F(1, 110) = 8.17$, $\beta = -.21$, $R^2 = .04$, $p < .01$.

The Mediating Role of Coping

Next, we examined whether the use of care-specific coping statistically explained the observed effects of goal adjustment capacities on participants' subjective well-being. To do so, we first identified potential mediators by considering those coping strategies that were associated with goal disengagement (i.e., self-blame and substance use) or goal reengagement capacities (i.e., active coping, planning, instrumental support, positive reframing, humor, religion, self-distraction, venting, and substance use, see Table 1), and that were significantly associated with the respective outcomes. In this regard, Table 4 presents the associations between baseline levels of coping and baseline and follow-up levels of caregiver burden, depressive symptoms, and purpose. The results reported in Table 4 indicate that self-blame and substance use were significantly associated with caregiver burden or depressive symptoms and therefore qualified as potential mediators of the effects of goal disengagement on these outcomes. In addition, active coping, planning, instrumental support, positive reframing, and religion were associated with higher baseline levels of purpose or lower baseline levels of depressive symptoms, and thus were identified as coping strategies that could explain the effects of goal reengagement on these outcomes. Finally, venting, humor, and self-distraction were significantly associated with greater caregiver burden, and therefore could mediate the effect of goal reengagement on higher levels of caregiver burden.

In a next step, we tested whether the previously selected coping strategies would statistically mediate the observed cross-sectional and longitudinal effects of goal adjustment capacities on indicators of subjective well-being by the previously selected coping strategies. To this end, we conducted multiple mediation models by including the identified coping strategies as potential mediators into the previously reported analyses (Preacher & Hayes, 2008). These analyses examined whether the effects of goal adjustment capacities become non-significant if the mediating variables are taken into account and whether specific mediators exert significant and unique indirect effects, using bootstrapping.

The first set of analyses examined whether the effects of baseline levels of goal adjustment capacities on baseline levels of caregiver burden, depressive symptoms, and purpose in life (see Table 2, Models 1) were mediated by the identified coping strategies. The results showed that the inclusion of self-blame and substance use rendered the cross-sectional effects of goal disengagement on baseline levels of caregiver burden, $B = -2.75$, $SE = 1.64$, $p = .10$, and depressive symptoms, $B = -1.58$, $SE = .97$, $p = .10$, non-significant. Only self-blame (but not substance use) was significantly associated with higher levels of burden, $B = 2.90$, $SE = .92$, $p < .01$, and depressive symptoms, $B = 1.06$, $SE = .54$, $p = .05$. In addition, self-blame exerted significant indirect effects on the associations between goal disengagement capacities and caregiver burden (95% BCI [-2.73, -.20]) and depressive symptomatology (95% BCI [-1.25, -.01]). These findings suggest that participants who were better able to disengage from unattainable goals also blamed themselves relatively infrequently for caregiving problems, which mediated their lower levels of burden and depressive symptoms.

In addition, the effect of goal reengagement on baseline levels of purpose in life (see Table 2, Models 1) became non-significant, $B = .45$, $SE = .42$, $p = .29$, if the identified five coping strategies (active coping, planning, instrumental support, positive reframing, and religion) were included into the model. Of the coping strategies, only positive reframing was independently associated with higher levels of purpose in life, $B = .61$, $SE = .19$, $p < .01$, and showed a significant indirect effect (95% BCI [.87, .07]). These findings indicate that caregivers who were able to identify and pursue new goals evaluated the stressful circumstances in a more positive light, which explained their high levels of purpose in life.

Finally, the effect of goal reengagement on elevated baseline levels of caregiver burden (see Table 2, Models 1) was rendered non-significant, $B = 1.92$, $SE = 1.74$, $p = .27$, if we included the identified three coping strategies (venting, self-distraction, or humor) as mediators into the model. However, none of the identified coping strategies showed a unique indirect effect in the association between goal reengagement capacities and caregiver burden, although the total indirect effect was significant (95% BCI [3.79, .51]). Follow-up analyses showed that venting and self-distraction were significantly correlated with each other, $r = .32$, $p < .01$, and a compound variable, incorporating both coping strategies, was significantly associated with higher levels of caregiver burden, $B = 1.27$, $SE = .54$, $p = .02$, and exerted a significant indirect effect in the association between goal reengagement and higher levels of caregiver burden (95% BCI [3.16, .14]). These findings show that the higher levels of burden, observed among caregivers who tend to engage in other new goals, could be explained by more frequent venting and self-distraction in caregiving-related situations.

In a second set of analyses, we examined whether the cross-sectional buffering effect of goal reengagement on the association between caregiver burden and depressive symptoms (see Table 2, Models 2) could be statistically explained by the identified coping strategies. To this end, we repeated the analysis for predicting levels of depressive symptoms and additionally included the five identified coping strategies and their interactions with caregiver burden and goal reengagement into the analysis (for statistically controlling moderation effects, see Yzerbyt, Muller, & Judd, 2003). The results of the analysis showed that the interaction effect between caregiver burden and goal reengagement in predicting depressive symptoms was no longer significant, $B = -.11$, $SE = .07$, $p = .11$, once we accounted for the variance associated with coping. Of the included coping variables, only the main effect of positive reframing was significantly associated with levels of depressive symptoms, $B = -1.17$, $SE = .46$, $p = .01$. Further, positive reframing exerted a significant indirect effect on the interaction between caregiver burden and goal reengagement in predicting depressive symptomatology (95% BCI [-.10, -.08]). These findings suggest that positive reframing mediated the lower levels of depressive symptoms observed among highly burdened participants who were capable of reengaging in new goals.⁸

In the final wave of analyses, we examined the role of coping in the longitudinal interaction effect between caregiver burden and goal disengagement capacities. This was done by repeating the earlier analysis of depressive symptoms (see Table 3, Model 2) after incorporating baseline levels of self-blame and substance use and their interactions with caregiver burden and goal disengagement as potential mediators. The inclusion of the variance associated with these coping strategies rendered the interaction effect between caregiver burden and goal disengagement capacities on changes in depressive symptoms non-significant, $B = -.10$, $SE = .06$, $p = .10$. None of the included mediators exerted a significant indirect effect in the bootstrapping analysis. However, we note that the

⁸We note that there was also a tendency in the data, suggesting that burdened participants who did not use positive reframing reported particularly high levels of depressive symptoms. This interaction effect, however, was significant only if other coping tactics and goal adjustment capacities were not included in the analyses, $F(1, 136) = 4.15$, $p < .05$, $R^2 = .02$.

attenuation of the original interaction effect between caregiver burden and goal disengagement to non-significance was associated with the inclusion of a significant interaction between caregiver burden and substance use in predicting changes in depressive symptoms, $B = .16$, $SE = .06$, $p < .01$. In fact, the original interaction effect remained significant if this potential mediator was not included in the analysis. This interaction effect showed that highly burdened participants who frequently used substances experienced the largest increases in depressive symptoms over time.⁹ Thus, comparable to the buffering effect of goal disengagement capacities, using substances less frequently also alleviated the spillover effect of caregiver burden on increases in depressive symptoms. Although this pattern of findings only suggests partial mediation, it is consistent with the idea that among highly burdened caregivers, being able to disengage from unattainable goals is protective against depressive symptoms, partly because it reduces the likelihood of coping through substance use.

Discussion

The present study showed that goal adjustment capacities are associated with how individuals cope with the stressful situation of caregiving for a family member with mental illness. In addition, goal adjustment capacities predicted levels of, and changes in, indicators of subjective well-being. Finally, the effects of goal adjustment capacities on subjective well-being were statistically explained by the adoption of specific coping strategies. This pattern of findings suggests that coping represents a unique mechanism that links goal adjustment capacities and subjective well-being in the context of a chronic stressor.

More specifically, the study's results showed that participants who were better able to disengage from unattainable goals blamed themselves less frequently for problems associated with caregiving and used substances less frequently to regulate their emotions, as compared to their counterparts who exhibited poor goal disengagement capacities. In addition, caregivers with better goal disengagement capacities experienced relatively low levels of caregiver burden, which mediated their lower levels of depressive symptoms. The longitudinal analyses further demonstrated that caregivers who were highly burdened at baseline experienced particularly large increases in depressive symptoms over time, but only if they had difficulty disengaging from unattainable goals, and not if they were able to abandon unattainable goals. Finally, the cross-sectional effects of adaptive goal disengagement were statistically explained by a less frequent use of self-blame, and the longitudinal buffering effect of adaptive goal disengagement capacities was partially mediated by a less frequent use of substances.

These findings are consistent with the hypothesis that individual differences in goal adjustment capacities shape the ways that people manage and respond to stressful caregiving situations. In particular, individuals who have difficulty abandoning unattainable goals may deplete their self-regulatory resources, and as a result feel overwhelmed and perceive that they could and should have devoted more time and energy to caring for their family member. As a consequence, they are more likely to blame themselves for problems that arise and to use substances to cope with the associated emotional difficulties (Newcomb & Harlow, 1986). In other work, these coping strategies (i.e., self-blame and substance use) have been linked with negative emotional states, including depressive symptoms (Abramson, Seligman, & Teasdale, 1978; Hasin & Grant, 2002). Thus, goal disengagement

⁹Simple slope analyses demonstrated that caregiver burden predicted increases in depressive symptoms among participants who used substances more frequently, $\beta = .36$, $p < .01$, but not among participants who used substances less frequently, $\beta = -.10$, $p = .34$. In addition, substance use was associated with larger increases in depressive symptoms among participants with high levels of caregiver burden, $\beta = .31$, $p < .01$, but not among their counterparts who experienced low levels of caregiver burden, $\beta = -.15$, $p = .19$.

capacities play a role in shaping how caregivers manage stressful situations and their ensuing levels of subjective well-being.

The effects of goal reengagement on caregivers' coping and well-being were mixed. For example, the capacity to reengage in other new goals was associated with both more and less effective coping strategies (e.g., planning, positive reframing, and religion vs. venting and self-distraction, see Table 1). Moreover, in the cross-sectional analyses goal reengagement capacities related to higher purpose in life, but also greater caregiver burden. Mediation analyses clarified the basis for these seemingly contradictory patterns, highlighting the role that specific coping strategies played in fostering different outcomes. Specifically, the analyses suggested that goal reengagement had beneficial effects on purpose in life and depressive symptoms through the promotion of more frequent use of positive reframing. By contrast, the more undesirable effects of goal reengagement on increased levels of caregiver burden were mediated by a more frequent use of venting and self-distraction. These findings suggest that pursuing new goals represents a double-edged sword in chronically stressful situations like caregiving. On the one hand, pursuing new goals can facilitate the reappraisal of problematic situations in a more positive light and thus foster a general purpose in life (Folkman & Moskowitz, 2000). On the other hand, however, it may also distract a person from addressing the primary stressor and elevate the person's caregiving burden.

We note that goal disengagement capacities were not associated with purpose in life. This finding is consistent with previous research documenting that goal disengagement capacities are often more strongly associated with negative, as compared to positive, indicators of subjective well-being (Wrosch et al., 2007). In addition, it seems important to address the different patterns of cross-sectional and longitudinal findings. In particular, our analyses did not confirm associations between goal reengagement capacities and indicators of subjective well-being over time. Such associations may not have been observed in the present study because the selection, pursuit, and attainment of new goals can take a considerable period of time (H. Heckhausen, 1991), and the beneficial or detrimental effects of new goal pursuits may thus only be determined in lengthy follow-ups. Consistent with this possibility, research among older adults showed that goal reengagement capacities buffered an adverse effect of stressors on increases in depressive symptoms only after 4 years, but not after 2 years (Dunne & Wrosch, 2009).

Overall, the study's findings have important implications for theory and research in the area of self-regulation and quality of life. First, they suggest that some individuals can thrive in the context of a chronic and severe stressor, such as caregiving for a mentally ill family member. Our results showed that even in this situation caregivers can experience high levels of subjective well-being if they adjust their goals and use effective coping strategies. These findings are consistent with theory and research indicating that caregiving (e.g., Kim, Schulz, & Carver, 2007) and other goal-related problems (e.g., regret experiences, Bauer & Wrosch, in press; King & Hicks, 2007) do not necessarily result in detrimental developmental outcomes, but instead may provide an opportunity for creating adaptive developmental pathways if individuals are able to adjust their goal-related processes accordingly (e.g., through acceptance, self-protection, and new goal pursuits; for life challenges and personality development, see also Helson & Roberts, 1994).

Second, the findings provide evidence that specific coping strategies represent a mechanism that links general goal adjustment capacities with indicators of subjective well-being. This implies that goal disengagement and goal reengagement capacities may not exert only direct emotional benefits. Instead, their effects extend to facilitating adjustment to stressors that impose constraints on other desired goals. These findings further suggest that to understand the process of successful adjustment to difficult life circumstances more comprehensively, it

is important to consider both, how individuals tend to react to problems in general and how they regulate specific stressors. While these different levels of personality functioning have been clearly articulated in personality theory, the associations between levels are not always conceptualized (see McAdams & Olson, 2010). In this regard, our theoretical model assumes that individual differences in general self-regulation tendencies unfold their adaptive value by influencing specific self-regulation behaviors. In support of this idea, and consistent with other research in the area of self-regulation (see work on dispositional optimism and coping, Scheier et al., 1989), our findings showed that goal adjustment capacities can predict how a person copes with specific stressors and thereby affect the person's subjective well-being.

Third, the study's results suggest two different mechanisms that can explain how self-regulation processes and caregiver burden work together to influence subjective well-being. First, the beneficial self-regulation effects on subjective well-being can be mediated by low levels of caregiver burden. Second, adaptive self-regulation processes can buffer the adverse consequences of burden on a person's general subjective well-being. This implies that there are, at least, two different functions of individual differences in self-regulation processes, which are not mutually exclusive. They may reduce the burden associated with a difficult situation and thereby directly improve quality of life. In addition, among those individuals who are particularly burdened by specific life circumstances, they may prevent spillover effects on general indicators of quality of life, such as depressive symptomatology.

Finally, our findings document how general self-regulation capacities can have different effects on specific versus general indicators of subjective well-being. In particular, individuals' capacities to identify and pursue new goals were shown to be associated with high levels of purpose, but also with high levels of caregiving burden. This implies that there may be a trade-off that comes with reengaging in new goals. As a result, research needs to assess situation-specific and general indicators of subjective well-being to avoid a misinterpretation of the effects of self-regulation processes on adjustment to critical life circumstances. In addition, these findings raise the question whether it is more beneficial for a person's long-term quality of life to avoid stress-specific burden or to ensure that life continues with purpose. While this question can be empirically determined only in long-term follow-ups, we suggest that the experience of general subjective well-being, such as purpose, may ultimately serve more critical adaptive functions, as it represents a motivational resource necessary for creating long-term developmental benefits across different areas of life (for primacy of primary control capacity, see Heckhausen, Wrosch, & Schulz, 2010).

Limitations and Future Research

There are limitations to this study that need to be addressed in future research. First, our analytical approach examined how general goal adjustment capacities are associated with levels of coping rather than with changes in coping over time. This approach was chosen because of the chronic nature of the stressor in our study. In fact, participants cared on average almost 16 years for their relatives, which makes it rather unlikely that new coping strategies are being adopted over a comparably short period of time. However, future research should extend our analysis by studying adjustment to recent and acute stressors (e.g., development of a new physical health problem). In such circumstances, we would expect goal adjustment capacities to predict changes in coping over time and thereby influence quality of life.

Second, the results showed that the effects of goal adjustment capacities on subjective well-being were mediated only by emotion-focused coping. Moreover, only a subset of the assessed coping strategies were associated with goal adjustment capacities. We suspect that

these patterns are specific to the stressor considered in this study. Caring for a family member with mental illness is a chronic stressor that is likely to persist in participants' lives for many years. Moreover, because the patients and their doctors possess much control over the course of the illness, a caregiver's efforts at active coping may, at times, be unsuccessful (or only partially successful). However, we would not be surprised if active coping plays an important role in circumstances in which the stressor can be overcome or eliminated more easily (e.g., education or work related problems). Thus, the coping strategies that are functionally associated with goal adjustment capacities could be context dependent and future research should investigate a wider range of stressful life circumstances.

Third, our study focused on subjective well-being as an indicator of successful adaptation. In this regard, it seems important to note that some research has suggested that adaptive development may require individuals to confront and accept adverse life circumstances, which could compromise subjective well-being in the short-run, but contribute to adaptive personality development over a longer period of time (e.g., Helson & Roberts, 1994; King & Hicks, 2007). To address this possibility, we suggest that future research should examine a wider range of indicators of successful adaptation (e.g., psychological well-being or ego development; Loevinger, 1976; Ryff, 1989) over a longer period time.

Finally, we would like to note that the study participants expressed high levels of caregiver burden, which places them at the 75th percentile of burden typically experienced by dementia caregivers (Hebert, Bravo, & Preville, 2000). Such elevated levels of burden could put some study participants at risk of developing patterns of biological dysregulation and subsequent physical health problems (Cohen, Janicki-Deverts, & Miller, 2007). We therefore suggest that future research should conduct long-term longitudinal studies to examine how self-regulation processes and associated subjective well-being can predict biomedical outcomes and protect the quality of life of individuals who experience chronically stressful life circumstances.

Acknowledgments

Completion of this manuscript was supported by grants and awards from the Canadian Institutes of Health Research and Social Sciences and Humanities Research Council of Canada to Carsten Wrosch and by grants to Gregory Miller from the Canadian Institutes of Health Research (89736), the National Institute of Child Health and Human Development (058502), and the Heart and Stroke Foundation of Canada.

References

- Abramson LY, Seligman ME, Teasdale JD. Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*. 1978; 87:49–74.10.1037/0021-843X.87.1.49 [PubMed: 649856]
- Aiken, LS.; West, SG. Multiple regression: Testing and interpreting interactions. Newbury Park: Sage Publications; 1991.
- Bauer, I. MA thesis. Concordia University; Montreal, Canada: 2004. Unattainable goals across adulthood and old age: Benefits of goal adjustment capacities on well-being.
- Bauer I, Wrosch C. Making up for lost opportunities: The protective role of downward social comparisons for coping with regrets across adulthood. *Personality and Social Psychology Bulletin*. in press. 10.1177/0146167210393256
- Baumeister RF, Bratslavsky E, Muraven M, Tice DM. Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*. 1998; 74:1252–1265.10.1037/0022-3514.74.5.1252 [PubMed: 9599441]
- Baumeister, RF.; Schmeichel, BJ.; Vohs, KD. Self-regulation and the executive function: The self as controlling agent. In: Kruglanski, AW.; Higgins, ET., editors. *Social psychology: Handbook of basic principles*. 2. New York: Guilford; 2007. p. 516-539.

- Brandtstädter J, Renner G. Tenacious goal pursuit and flexible goal adjustment: Explication and age-related analysis of assimilative and accommodative strategies of coping. *Psychology and Aging*. 1990; 5:58–67.10.1037/0882-7974.5.1.58 [PubMed: 2317302]
- Baronet AM. Factors associated with caregiver burden in mental illness: A critical review of the research literature. *Clinical Psychology Review*. 1999; 19:819–841.10.1016/S0272-7358(98)00076-2 [PubMed: 10520437]
- Carver, CS.; Scheier, MF. *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer Verlag; 1981.
- Carver CS, Scheier MF. Origins and functions of positive and negative affect: A control-process view. *Psychological Review*. 1990; 97:19–35.10.1037/0033-295X.97.1.19
- Carver, CS.; Scheier, MF. *On the self regulation of behavior*. New York: Cambridge University Press; 1998.
- Carver CS. You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*. 1997; 4:92–100.10.1207/s15327558ijbm0401_6 [PubMed: 16250744]
- Carver CS, Scheier MF, Weintraub JK. Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*. 1989; 56:267–283.10.1037/0022-3514.56.2.267 [PubMed: 2926629]
- Cohen S, Janicki-Deverts D, Miller GE. Psychological stress and disease. *Journal of the American Medical Association*. 2007; 298:1685–1687.10.1001/jama.298.14.1685 [PubMed: 17925521]
- Culver JL, Arena PL, Antoni MH, Carver CS. Coping and distress among women under treatment for early stage breast cancer: Comparing African Americans, Hispanics, and Non-Hispanic women. *Psycho-Oncology*. 2002; 11:495–504.10.1002/pon.615 [PubMed: 12476431]
- DeWall CN, Baumeister RF, Stillman TF, Gailliot MT. Violence restrained: Effects of self-regulation and its depletion on aggression. *Journal of Experimental Social Psychology*. 2005; 43:62–76.10.1016/j.jesp.2005.12.005
- Dunne, E.; Wrosch, C. The longitudinal associations between functional disabilities, goal adjustment capacities and depressive symptoms in older adults. Poster presented at the 19th IAGG World Congress of Gerontology and Geriatrics; Paris, France. 2009 July.
- Dyck DG, Short R, Vitaliano PP. Predictors of burden and infectious illness in schizophrenia caregivers. *Psychosomatic Medicine*. 1999; 61:411–419. [PubMed: 10443748]
- Emmons RA. Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*. 1986; 51:1058–1068.10.1037/0022-3514.51.5.1058
- Folkman S, Lazarus RS. Coping as a mediator of emotion. *Journal of Personality and Social Psychology*. 1988; 55:466–475.10.1037/0022-3514.54.3.466 [PubMed: 3361419]
- Folkman S, Moskowitz JT. Positive affect and the other side of coping. *American Psychologist*. 2000; 55:647–654.10.1037/0003-066X.55.6.647 [PubMed: 10892207]
- Folkman S. Positive psychological states and coping with severe stress. *Social Science and Medicine*. 1997; 45:1207–1221.10.1016/S0277-9536(97)00040-3 [PubMed: 9381234]
- Grunfeld E, Coyle D, Whelan T, Clinch J, Reyno L, Earle CC, Wilan A, Viola R, Coristine M, Janz T, Glossop R. Family caregiver burden: Results of a longitudinal study of breast cancer patient and their principal caregivers. *Canadian Medical Association Journal*. 2004; 170:1795–1801.10.1503/cmaj.1031205 [PubMed: 15184333]
- Hasin DS, Grant BF. Major depression in 6050 former drinkers: Association with past alcohol dependence. *Archives of General Psychiatry*. 2002; 59:794–800.10.1001/archpsyc.59.9.794 [PubMed: 12215078]
- Heckhausen, H. *Motivation and action*. New York, NY: Springer- Verlag; 1991.
- Heckhausen J, Wrosch C, Schulz R. A motivational theory of lifespan development. *Psychological Review*. 2010; 117:32–60.10.1037/a0017668 [PubMed: 20063963]
- Helson R, Roberts W. Ego development and personality change in adulthood. *Journal of Personality and Social Psychology*. 1994; 66:911–920.10.1037/0022-3514.66.5.911 [PubMed: 8014835]
- Hebert R, Bravo G, Preville M. Reliability, validity and reference values of the Zarit Burden Interview for assessing informal caregivers of community-dwelling older persons with dementia. *Canadian Journal on Aging*. 2000; 19:494–507.10.1017/S0714980800012484

- Kim Y, Schulz R, Carver CS. Benefit finding in the cancer caregiving experience. *Psychosomatic Medicine*. 2007; 69:283–291.10.1097/PSY.0b013e3180417cf4 [PubMed: 17420443]
- King LA, Hicks A. Whatever happened to “what might have been”? Regret, happiness, and maturity. *American Psychologist*. 2007; 62:625–636.10.1037/0003-066X.62.7.625 [PubMed: 17924747]
- Lazarus, RS.; Folkman, S. Stress, appraisal, and coping. New York: Springer; 1984.
- Loevinger, J. Ego development. Conceptions and theories. San Francisco: Jossey-Bass; 1976.
- Magliano L, Fadden G, Economou M, Held T, Xavier M, Guarneri M, Malangone C, Marasco C, Maj M. Family burden and coping strategies: 1-year follow-up data from the BIOMED I study. *Social Psychiatry and Psychiatric Epidemiology*. 2000; 35:109–115.10.1007/s001270050192 [PubMed: 10855508]
- McAdams DP, Olson BD. Personality development: Continuity and change over the life course. *Annual Review of Psychology*. 2010; 61:517–542.10.1146/annurev.psych.093008.100507
- Miller GE, Wrosch C. You’ve gotta know when to fold’em: Goal disengagement and systemic inflammation in adolescence. *Psychological Science*. 2007; 18:773–777.10.1111/j.1467-9280.2007.01977.x [PubMed: 17760771]
- Newcomb MD, Harlow LL. Life events and substance use among adolescents: mediating effects of perceived loss of control and meaninglessness in life. *Journal of Personality and Social Psychology*. 1986; 51:564–577.10.1037/0022-3514.51.3.564 [PubMed: 3489832]
- O’Connor RC, Forgan G. Suicidal thinking and perfectionism: The role of goal adjustment and behavioral inhibition/activation systems. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*. 2007; 25:321–341.10.1007/s10942-007-0057-2
- Ory MG, Hoffman RR III, Yee JL, Schulz R. Prevalence and impact of caregiving: A detailed comparison between dementia and nondementia caregivers. *Gerontologist*. 1999; 39:177–185.10.1093/geront/39.2.177 [PubMed: 10224714]
- Pratt CC, Schmall VL, Wright S, Cleland M. Burden and coping strategies of caregivers to Alzheimer patients. *Family Relations*. 1985; 34:27–33.10.2307/583754
- Preacher KJ, Hayes A. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediation models. *Behavior Research Methods*. 2008; 40:879–891.10.3758/BRM.40.3.879 [PubMed: 18697684]
- Radloff LS. The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977; 1:385–401.10.1177/014662167700100306
- Rose LE. Families of psychiatric patients: A critical review and future research directions. *Archives of Psychiatric Nursing*. 1996; 10:67–76.10.1016/S0883-9417(96)80069-0 [PubMed: 8935983]
- Ryff CD. Happiness is everything, or is it? Exploration of the meaning of psychological well-being. *Journal of Personality and Social Psychology*. 1989; 57:1069–1081.10.1037/0022-3514.57.6.1069
- Scheier MF, Matthews KA, Owens JF, Magovern GJ, Lefebvre RC, Abbott RA, et al. Dispositional optimism and recovery from coronary artery bypass surgery: The beneficial effects on physical and psycho- logical well-being. *Journal of Personality and Social Psychology*. 1989; 57:1024–1040.10.1037/0022-3514.57.6.1024 [PubMed: 2614656]
- Scheier MF, Wrosch C, Baum A, Cohen S, Martire LM, Matthews KA, et al. The Life Engagement Test: Assessing purpose in life. *Journal of Behavioral Medicine*. 2006; 29:291–298.10.1007/s10865-005-9044-1 [PubMed: 16565785]
- Schulz R, Newsom J, Mittelman M, Burton L, Hirsch C, Jackson S. Health effects of caregiving: The Caregiver Health Effects Study: An ancillary study of the Cardiovascular Health Study. *Annals of Behavioral Medicine*. 1997; 19:110–116. [PubMed: 9603685]
- Schulz R, O’Brien AT, Bookwala J, Fleissner K. Psychiatric and physical morbidity effects of dementia caregiving: Prevalence, correlates, and causes. *Gerontologist*. 1995; 35:771–791.10.1007/BF02883327 [PubMed: 8557205]
- Seltzer MM, Greenberg JS, Krauss MW. A comparison of coping strategies of aging mothers of adults with mental illness or mental retardation. *Psychology and Aging*. 1995; 10:64–75.10.1037/0882-7974.10.1.64 [PubMed: 7779318]
- Wrosch, C. Self-regulation of unattainable goals and pathways to quality of life. In: Folkman, S., editor. *The Oxford Handbook of Stress, Health, and Coping*. New York: Oxford University Press; 2011. p. 319-333.

- Wrosch C, Bauer I, Scheier MF. Regret and quality of life across the adult life span: The influence of disengagement and available future goals. *Psychology and Aging*. 2005; 20:657–670.10.1037/0882-7974.20.4.657 [PubMed: 16420140]
- Wrosch C, Miller GE. Depressive symptoms can be useful: Self-regulatory and emotional benefits of dysphoric mood in adolescence. *Journal of Personality and Social Psychology*. 2009; 96:1181–1190.10.1037/a0015172
- Wrosch C, Miller GE, Scheier MF, Brun de Pontet S. Giving up on unattainable goals: Benefits for health? *Personality and Social Psychology Bulletin*. 2007; 33:251–265.10.1177/0146167206294905 [PubMed: 17259585]
- Wrosch C, Scheier MF, Carver CS, Schulz R. The importance of goal disengagement in adaptive self-regulation: When giving up is beneficial. *Self and Identity*. 2003; 2:1–20.10.1080/15298860309021
- Wrosch C, Scheier MF, Miller GE, Schulz R, Carver CS. Adaptive self-regulation of unattainable goals: Goal disengagement, goal reengagement, and subjective well-being. *Personality and Social Psychology Bulletin*. 2003; 29:1494–1508.10.1177/0146167203256921 [PubMed: 15018681]
- Yzerbyt VY, Muller D, Judd CM. Adjusting researchers' approach to adjustment: On the use of covariates when testing interactions. *Journal of Experimental and Social Psychology*. 2003; 40:424–431.10.1016/j.jesp.2003.10.001
- Zarit, SH.; Zarit, JM. The Memory and Behaviour Problems Checklist 1987R and the Burden Interview (Technical report). State College, PA: Pennsylvania State University; 1987.

Figure 1. Associations between baseline levels of caregiver burden and depressive symptoms, separately for participants with high versus low baseline levels of goal reengagement capacities. Effects are plotted for one standard deviation above and below the sample means.

Figure 2.

Associations between baseline levels of caregiver burden and changes in depressive symptoms, separately for participants with high versus low baseline levels of goal disengagement capacities. Effects are plotted for one standard deviation above and below the sample means.

Table 1

Correlations between Goal Adjustment Capacities and Coping with Caregiving Stress.

Coping with caregiving stress	Goal disengagement capacities	Goal reengagement capacities
Active coping	-.07	.16*
Planning	.00	.19*
Instrumental support	.03	.28**
Behavioral disengagement	-.02	-.03
Positive reframing	.07	.25**
Acceptance	.07	.14
Self-blame	-.23**	-.06
Humor	.04	.17*
Religion	.07	.27**
Emotional support	-.06	.12
Self-distraction	-.09	.21**
Denial	-.05	-.10
Venting	-.03	.26**
Substance use	-.22**	-.25**

Note. Analyses were controlled for caregivers' age, sex, education, partnership status, and chronic health problems, and time since care recipients' first diagnosis and illness severity.

* $p \leq .05$;

** $p \leq .01$.

Table 2

Cross-Sectional Results from Hierarchical Regression Analyses Predicting Baseline Levels of Depressive Symptoms, Purpose, and Caregiver Burden By Participants' Goal Adjustment Capacities (Model 1), and By The Interactions Between Caregiver Burden and Goal Adjustment Capacities (Model 2).

	Depressive symptoms		Purpose in life		Caregiver burden	
	R^2	β	R^2	β	R^2	β
<i>Model 1</i>						
Goal disengagement (GD)	.03*	-.18*	.00	.01	.03*	-.19*
Goal reengagement (GR)	.00	-.04	.05***	.26***	.03*	.19*
<i>Model 2</i>						
Goal disengagement	.01	-.13	.00	-.03		
Goal reengagement	.01	-.10	.07***	.30***		
<i>Interactions</i>						
Caregiver burden X GD	.00	-.04	.00	.06		
Caregiver burden X GR	.04**	-.21**	.01	.12		

Note. Analyses were controlled for caregivers' age, sex, education, partnership status, and chronic health problems, and time since care recipients' first diagnosis and illness severity. R^2 s for predictors represent unique amount of variance explained in the outcomes.

* $p \leq .05$;

** $p \leq .01$.

Table 3

Longitudinal Results from Hierarchical Regression Analyses Predicting Follow-Up Levels of Depressive Symptoms, Purpose, and Caregiver Burden By Participants' Baseline Levels of the Outcomes and Goal Adjustment Capacities (Model 1), and By The Interactions Between Caregiver Burden and Goal Adjustment Capacities (Model 2).

	T2 Depressive symptoms		T2 Purpose in life		T2 Caregiver burden	
	R ²	β	R ²	β	R ²	β
<i>Model 1</i>						
T1 Outcomes	.30**	.57**	.27**	.56**	.51**	.77**
Goal disengagement (GR)	.00	-.07	.01	-.12	.00	.03
Goal reengagement (GR)	.01	.12	.01	.11	.00	-.05
<i>Model 2</i>						
T1 Outcomes	.24**	.54**	.24**	.55**		
Caregiver burden	.02*	.15*	.00	-.03		
Goal disengagement	.00	-.04	.01	-.13		
Goal reengagement	.01	.09	.01	.12		
<i>Interactions</i>						
Caregiver burden X GD	.02*	-.14*	.01	-.13		
Caregiver burden X GR	.00	.03	.01	-.06		

Note. Analyses were controlled for caregivers' age, sex, education, partnership status, and chronic health problems, and time since care recipients' first diagnosis and illness severity. R²s for predictors represent unique amount of variance explained in the outcomes.

* $p \leq .05$;

** $p \leq .01$.

Table 4

Correlations Between Baseline Levels of Coping with Caregiving Stress and Baseline (T1) and Follow-Up (T2) Levels of Indicators of Subjective Well-Being.

Coping with caregiving stress	Caregiver burden		Depressive symptoms		Purpose in life	
	T1	T2	T1	T2	T1	T2
Active coping ^b	-.02	.05	-.19*	.01	.29**	.32**
Planning ^b	.08	.15	-.11	.09	.30**	.25**
Instrumental support ^b	-.01	-.05	-.09	.04	.22**	.09
Behavioral disengagement	.05	.01	.27**	.19*	-.21**	-.29**
Positive reframing ^b	.02	-.04	-.35**	-.24**	.40**	.27**
Acceptance	-.15	-.12	-.34**	-.15	.30**	.21*
Self-blame ^a	.28**	.22*	.21**	.26**	-.21**	-.20*
Humor ^b	.20*	.10	.01	.11	-.06	-.07
Religion ^b	-.14	-.08	-.21**	.01	.22**	.14
Emotional support	-.14	-.11	-.28**	-.09	.15	.19*
Self-distraction ^b	.23**	.27**	.09	.05	-.08	.05
Denial	.21**	.08	.31**	.13	-.28**	-.22*
Venting ^b	.23**	.16	.05	.08	-.03	.07
Substance use ^{a, b}	-.01	.09	.14	.20*	-.14	-.23**

Note. Analyses were controlled for caregivers' age, sex, education, partnership status, and chronic health problems, and time since care recipients' first diagnosis and illness severity.

^a Coping strategies associated with goal disengagement.

^b Coping strategies associated with goal reengagement.

* $p \leq .05$;

** $p \leq .01$.