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Romantic Relationships and Mental Health: Investigating the Role of Self-Expansion on Depression Symptoms

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Abstract

Close relationships have the potential to fundamentally alter relationship partners' self-concepts and, consequently, can impact individuals' mental health. One type of relationship-induced self-concept change is self-expansion, which describes the cognitive reorganization of the self that can occur when individuals include aspects of their partner into the self, or when they share novel and challenging activities together. In the current research, we hypothesized that greater self-expansion would be associated with fewer depression symptoms. In support of this hypothesis, across four studies using cross-sectional, dyadic, daily diary, and longitudinal methodologies, we found that self-expansion was negatively associated with depression symptoms. This association was robust and remained a significant predictor of depression symptoms when controlling for demographic factors (gender, age, relationship length; Studies 1–4) and known risk factors of depression (dysfunctional attitudes, major life stressors, self-concept clarity; Study 2). Moreover, individuals' self-expansion negatively predicted depression symptoms at the daily level (Study 3) and longitudinally over 9 months (Study 4). These results are the first to show the link between self-expansion and depression symptoms, suggesting that

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self-expansion may have robust benefits for individuals, beyond improving relationship dynamics.

Keywords
self-expansion, relationship self-change, depression symptoms, mental health

Close relationships are centrally important to individuals' well-being, as they have the potential to affect their identities (Mattingly, McIntyre, & Lewandowski, 2020), happiness and life satisfaction (Carr et al., 2014; Diener & Diener McGavran, 2008), and physical and psychological health (Loving & Sbarra, 2015; Stanton et al., 2019; Whisman, 2013; Xu, 2020). Involvement in committed romantic relationships decreases the incidence of mental health problems (Braithwaite et al., 2010) and depression (Simon & Barrett, 2010; Uecker, 2012) and the loss of relationships can have deleterious effects on well-being, such as increased emotional distress (e.g., Lewandowski et al., 2006; Mearns, 1991; Slotter et al., 2010; Sprecher et al., 1998) and even early death (Sbarra et al., 2011). Romantic relationships are thought to contribute to well-being because they offer individuals with a source of social support (Jakubiak & Tomlinson, 2020), help them overcome insecurities (Arriaga et al., 2018), and foster opportunities for self-growth (Mattingly, Tomlinson, & McIntyre, 2020). Although there are undoubtedly many elements of romantic relationships that may stave off mental health problems such as depression, the current research examines the role of self-expansion. Specifically, we advance the novel hypothesis that individuals who report greater self-expansion within romantic relationships will report lower levels of depression symptoms.

The self-expansion model describes the process by which individuals add new or augment existing positive self-concept content (Aron et al., 2013; Mattingly, McIntyre, & Lewandowski, 2020). Self-expansion is thought to involve a cognitive reorganization of the self, in which the self-concept becomes more robust in terms of content (Aron et al., 1995) and capabilities (Mattingly & Lewandowski, 2013). According to the model, individuals are fundamentally motivated to increase their ability to achieve goals and one way they can do this is by adding traits, perspectives, resources, and skills to their self-concept (Aron et al., 2013). Although self-expansion can occur outside of relationships (e.g., Mattingly & Lewandowski, 2013), the self-expansion model posits that close relationships are the primary means by which individuals experience self-expansion (Aron et al., 2013).

Self-expansion is thought to occur along two pathways (Aron et al., 2013). First, individuals can augment their self-concepts when they include aspects of a partner into their own sense of self (e.g., Branand et al., 2019). As partners grow closer, they may experience a cognitive merging of identities and an increase in self-concept content. Second, individuals can experience self-expansion via novel, challenging, and exciting shared activities with their partner (e.g., Aron et al., 2000; Harasymchuk et al., 2021) as these activities bolster individuals' self-concepts (Tomlinson et al., 2019).

A growing body of literature reveals that individuals whose relationships provide greater self-expansion tend to experience numerous benefits, such as higher relationship quality (e.g., Cloutier & Peetz, 2017), greater love (e.g., Sheets, 2014), increased sexual satisfaction (e.g., Muise et al., 2019), and more frequent relationship maintenance behaviors (Mattingly et al., 2019). Additionally, self-expanding relationships (i.e., those high in self-expansion) also protect individuals from relationship threats, such as alternative partners and infidelity (e.g., VanderDrift et al., 2011). In contrast, individuals whose relationships lack self-expansion report more boredom (e.g., Aron et al., 2000; Harasymchuk & Fehr, 2013) and greater dissolution consideration (e.g., Joel et al., 2018), and ultimately less expanding relationships are more likely to terminate than highly expanding relationships (Mattingly et al., 2019). The current research seeks to investigate a previously unexplored benefit of self-expansion and suggests that self-expansion is associated with less susceptibility to mental health problems, specifically depression symptoms.

Why Might Self-Expansion Protect Mental Health?

According to the World Health Organization (2020), depression is a common psychological problem with more than 264 million people affected worldwide. Depression is characterized by persistent feelings of sadness, negative self-worth, and loss of interest in previously enjoyable activities, among other symptoms (Kroenke & Spitzer, 2002), each of which should be negatively associated with the experience of self-expansion. Prior research reveals that self-expansion is a positively-valenced affective experience (e.g., Coulter & Malouff, 2013; Graham, 2008; Stanton et al., 2020), improves feelings of self-worth (Aron et al., 1995), and is negatively associated with boredom and a lack of interest (Aron et al., 2000; Harasymchuk & Fehr, 2013). Self-expansion is theorized to confer benefits such as these to individuals because it reflects a positive change in the content and structure of the self-concept (Mattingly, McIntyre, & Lewandowski, 2020).

The notion that the content and structure of the self-concept has implications for psychological well-being—specifically mental health and depression—is well-established (e.g., Campbell et al., 2003; Richman et al., 2016; Ritchie et al., 2010). For example, cognitive models of depression propose that individuals are at higher risk for depression when they have negative self-schemas, characterized by maladaptive and biased cognitions regarding the self (e.g., Beck & Alford, 2009). Supporting these models, prospective studies have found that individuals whose self-concepts are characterized by negatively-valenced content are more likely to experience episodes of major and minor depression (Alloy et al., 2006).

Accordingly, to the extent that individuals have a robust and positively-valenced self-concept, they should be protected from psychological distress and depression symptoms. Thus, we suggest that when individuals' self-concepts improve, broadly speaking, they should be less prone to depression and other forms of psychological distress. Because self-expansion is associated with increases in positively-valenced self-concept content (Aron et al., 2013; Mattingly, McIntyre, & Lewandowski, 2020), we hypothesize that

individuals who report greater self-expansion within romantic relationships should report lower levels of depression symptoms.

Current Research

In the current research, we tested the hypothesis that self-expansion would negatively predict depression symptoms in several ways. Study 1 tested this hypothesis in a large, cross-sectional sample. Study 2 conceptually replicated Study 1 and tested the robustness of the association between self-expansion and depression symptoms. Study 3 used a dyadic sample and daily diary methodology to examine the day-to-day fluctuations in self-expansion and depression for both individuals and their partners. Finally, Study 4 used a longitudinal design that examined how changes in self-expansion within relationships are associated with depression symptoms over nine months. Across all four studies, we used a multi-measure approach when assessing depression symptoms to examine whether the results would remain consistent when using different measurement tools.

We also wanted to examine the robustness of the association between self-expansion and depression symptoms by controlling for demographic variables (i.e., age, gender, and relationship length). Prior work reveals that women have a lifetime prevalence of depression that is twice as high as men (Hilt & Nolen-Hoeksema, 2014) and depression symptoms are typically higher in early adulthood and decrease with age (Brenes et al., 2008). Moreover, self-expansion has been found to wane across the length of relationships (e.g., Sheets, 2014). Accordingly, in all four studies, we tested models which reflected the simple association as well as one which included these covariates (gender, age, and relationship length). If the association between self-expansion and depression is robust, then it should be relatively unaffected by the inclusion of these covariates.

Study 1

Method

Participants. Pilot data revealed that the association between self-expansion and depression was likely to be small (r = .20). Accordingly, we conducted a power analysis which yielded a target sample size of approximately N = 200 (power = .80, α = .05). We chose to oversample to increase our ability to detect a significant association and sought to collect a sample of N = 400.

Participants were recruited from Amazon Mechanical Turk (MTurk) and paid $0.30 USD for participating. Eligible participants were over the age of 18, located in the United States, had at least 50 prior tasks approved, and had a task approval rate that exceeded 95%. Our sample consisted of 407 (224 men, 183 women) romantically-involved individuals. Participants ranged in age from 18-69 years (M = 33.80, SD = 9.32) and 76.41% reported being of European ancestry, 9.83% of Asian ancestry, 3.19% Hispanic, Latino, or Spanish ancestry, 5.65% African ancestry, and 4.91% reported multiracial or "other" ancestry. Participants' relationship length ranged from 1 month to 50 years (M =

8.30 years, *SD* = 8.15), and 49.88% of the participants were married, 6.63% were engaged to be married, 38.57% were dating exclusively, 4.67% were dating casually, and 0.25% reported being in a polyamorous relationship.[1]

Procedure and Materials. After indicating that they were currently in a relationship and reporting the length of time that they had been with their current partner, participants completed the main study materials, which consisted solely of the self-expansion, depression symptoms, and demographics measures.[2,3]

Self-Expansion. The Self-Expansion Questionnaire (SEQ; Lewandowski & Aron, 2002) is a 14-item scale that measures the extent to which participants experience self-expansion as a result of their partner. Sample items include "How much does being with your partner result in you having new experiences?" and "How much does your partner help you to expand your sense of the kind of person you are? Participants indicated their level of agreement to each item on a 7-point scale (1 = *not at all*, 7 = *very much*). The scale demonstrated high reliability (α = .93; *M* = 5.23, *SD* = 0.97).

Depression Symptoms. The Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002) is a 9-item scale that measures how often participants have experienced depression related symptoms over the previous 2 weeks. For example, participants indicate how often they have been "Feeling down, depressed, or hopeless" and responses are made on a 4-point scale (0 = *not at all*, 3 = *nearly every day*). We did not include the final item in the scale ("Thoughts that you would be better off dead, or of hurting yourself.") at the request of the institutional review board. For the eight items we measured, the scale demonstrated high reliability (α = .90; *M* = 0.59, *SD* = 0.61).

Demographics. Finally, participants completed several demographic questions, assessing relationship status and length, gender (coded 0 = men, 1 = women), age, and ethnicity.

Results

To test our hypotheses, we performed three sets of analyses. First, we conducted simple regressions using self-expansion as the predictor and depression symptoms as the criterion variables. Second, we conducted hierarchical multiple regression in which we entered covariates in Step 1 and self-expansion in Step 2 (see Table 1). Third, we performed logistic regression to determine if self-expansion predicted diagnostic status as described in more detail below.

In support of our main hypothesis, self-expansion significantly negatively predicted depression symptoms (β = −.22, $p < .001$, $CI_{95\%}$: [−.31, -.12]), such that higher levels of self-expansion were associated with fewer depression symptoms.

We next examined whether self-expansion would still predict depression symptoms after adjusting for demographic variables. Age ($p = .013$) was the only significant demographic predictor in Step 1, overall model $F(3, 401) = 8.07$, $p < .001$. When

Table 1. Self-Expansion Predicting Depression Symptoms (Study 1).

Predictor	β	*t*	*F*	ΔR^2
Step 1			8.07**	.05***
Gender	.05	−0.92		
Age	−.18	−2.50*		
Relationship Length	−.08	−1.15		
Step 2			11.96***	.05***
Gender	.04	0.92		
Age	−.18	−2.55*		
Relationship Length	−.09	−.1.33		
Self-Expansion	−.22	−4.73***		

Note. *p < .05. **p < .01. ***p < .001. Gender coded 0 = men, 1 = women.

self-expansion was added in Step 2, there was a significant increase in the model R^2, $\Delta F(1, 400) = 22.35$, $p < .001$ and in this final step, age ($p = .011$) and self-expansion ($p < .001$) were significant predictors.

Scores of 2 or higher on each of the first two items of the PHQ indicate whether a person meets the diagnostic criteria for depression screening (Kroenke & Spitzer, 2002). In the current sample, 8.35% ($n = 34$) of the participants met this diagnostic criterion, whereas 91.65% ($n = 373$) did not meet this criterion. To test whether self-expansion predicts participants' classification status for depression, we conducted a logistic regression using age, gender, relationship length, and self-expansion as predictors and depression status (i.e., met criterion vs. did not meet criterion) as the outcome. The results revealed that only self-expansion was a significant predictor of depression status, $Exp(B) = 0.54$, $p < .001$; age was a marginal predictor ($Exp(B) = 0.94$; $p = .078$) and all other ps > .29. For each unit increase in self-expansion, participants were 46% less likely to meet the diagnostic screening criteria for depression.

Discussion

The results of Study 1 provided the first empirical evidence that self-expansion within romantic relationships significantly predicts fewer depression symptoms and remains significant when controlling for demographic variables. In addition, self-expansion significantly distinguishes participants who meet the diagnostic screening cutoff for depression from those who do not.

Although these results are promising, it is not yet clear how robust the association is between self-expansion and depression. One way of testing for robustness is to examine whether self-expansion predicts depression symptoms above and beyond well-known predictors of depression. Two prominent predictors of depression are dysfunctional attitudes and major life stressors. Research indicates that individuals are at higher risk for depression when they have dysfunctional attitudes regarding the self and cognitive models of depression posit that dysfunctional attitudes act as a diathesis that stress

activates, which leads to the onset of depression (Alloy et al., 2006; Beck & Alford, 2009). Cognitive-behavioral treatments generally seek to mitigate these self-concept distortions and replace them with more positive self-views (Beevers et al., 2007). Consistent with this approach, individuals are at greater risk of depressive symptoms following the experience of major stressors, such as the death of a loved one, loss of a job, or a financial hardship (Kessler, 1997). Indeed, the link between major stressors and the onset of major depression is one of the most consistent findings in the depression literature (Lewinsohn et al., 1988).

Beyond examining known predictors of depression, we also wanted to examine whether self-expansion predicted depression symptoms when controlling for other characteristics of the self-concept. One aspect of the self-concept that has received empirical attention as a predictor of depression is self-concept clarity (e.g., Lee-Flynn et al., 2011). In particular, people who lack a clear view of self are more prone to experiencing depression symptoms (Campbell et al., 1996) and self-concept clarity mediates the association between loneliness and depression (Richman et al., 2016).

Thus, Study 2 served as a robustness check, in which we sought to examine whether self-expansion would predict depression symptoms, after controlling for well-established predictors of depression, specifically dysfunctional attitudes, major stressors, and self-concept clarity.

Study 2

Method

Participants. Based on the results of Study 1, which indicated a small effect size, we sought a target sample size of approximately $N = 200$ (power = .80, $\alpha = .05$). Participants were recruited from MTurk and paid $0.50 USD for participating. Eligible participants were over the age of 18, located in the United States, had at least 50 prior tasks approved, and had a task approval rate that exceeded 95%. Our sample consisted of 203 (106 men, 97 women) romantically-involved individuals. Participants ranged in age from 18-64 years ($M = 33.53$, $SD = 10.24$) and 76.8% reported being of European ancestry, 3.9% of Asian ancestry, 5.9% of Hispanic, Latino, or Spanish ancestry, 9.9% of African ancestry, and 3.4% reported "other" ancestry. Participants' relationships ranged in length from 2 months to 38.92 years (M = 7.13 years, SD = 7.97) and 51.7% of participants indicated that they were in an exclusive dating relationship, with 35.5% reporting that they were married, 8.9% engaged to be married, 3.4% dating casually, and 0.5% identifying as polyamorous.

Procedure and Materials. After indicating that they were currently in a relationship, and reporting the amount of time that they had been with their current partner, participants completed the study materials. All measures in the study are listed below.[4] To minimize the chances of order effects, we randomized the order in which participants completed the questionnaires listed below.

Self-expansion. Similar to Study 1, we assessed self-expansion using the Self-Expansion Questionnaire (SEQ; Lewandowski & Aron, 2002), which demonstrated high reliability (α = .93; *M* = 5.04, *SD* = 1.01).

Dysfunctional Attitudes. The Dysfunctional Attitudes Scale—Short Form 2 (DAS-SF2; Beevers et al., 2007) is a 9-item scale used to assess dysfunctional attitudes associated with depression. A sample item is "If I do not do as well as other people, it means I am an inferior human being." Participants responded to each item on a 4-point scale (1 = *totally disagree,* 4 = *totally agree*). The scale demonstrated acceptable reliability (α = .79; *M* = 2.07, *SD* = 0.49).

Major Stressors. The Social Readjustment Rating Scale (SRRS; Holmes & Rahe, 1967) includes 41 events, such as death of a close family member, being fired at work, and sexual difficulties. Participants indicated whether each stressor occurred in the past 12 months (*M* = 3.86, *SD* = 3.46).

Depression Symptoms. To assess depression symptoms, we used the Center for Epidemiological Studies - Depression scale (CES-D; Radloff, 1977). Participants indicated the frequency of experiencing 20 depressive symptoms during the past week on a 4-point scale (0 = *Rarely, less than 1 day*, 3 = *Most or all of the time, 5-7 days*). A sample item is "I thought my life had been a failure." The scale demonstrated high reliability (α = .94; *M* = 0.66, *SD* = 0.58).

Self-concept Clarity. To assess self-concept clarity, participants completed the Self-Concept Clarity Scale (SCCS; Campbell et al., 1996), which is a 12-item scale and includes items such as "In general I have a clear sense of who I am and what I am." Responses are made on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). The scale demonstrated high reliability (α = .93; *M* = 3.52, *SD* = 0.87).

Demographics. Finally, participants completed several demographic questions, including gender (coded 0 = men, 1 = women), age, and ethnicity.

Results

To test our hypotheses, we followed the same analytic plan as Study 1, with the following exception. In the hierarchical multiple regression, we entered the demographic covariates in Step 1, known predictors of depression in Step 2, and self-expansion in Step 3.

In support of our main hypotheses, self-expansion negatively predicted depression symptoms (β = −.17, *p* = .014, $CI_{95\%}$: [−.31, -.04]). To test the robustness of this association, we next conducted a hierarchical multiple regression to examine whether self-expansion would be a significant predictor of self-expansion when adjusting for demographic variables, dysfunctional attitudes, major stressors, and self-concept clarity (see Table 2). Dysfunctional attitudes (*p* = .003) and self-concept clarity (*p* < .001) were significant predictors at Step 2, as was the overall model *F*(6, 195) = 23.69, *p* < .001,

Table 2. Self-Expansion Predicting Depression Symptoms (Study 2).

Predictor	β	*t*	*F*	ΔR^2
Step 1			5.29**	.07**
Gender	−.04	−0.51		
Age	−.22	−2.43*		
Relationship Length	−.07	−0.73		
Step 2			23.69***	.35***
Gender	.02	0.30		
Age	−.05	−0.72		
Relationship Length	−.08	−1.14		
Dysfunctional Attitudes	.18	3.02**		
Major Stressors	.05	0.96		
Self-Concept Clarity	−.50	−7.94***		
Step 3			21.45***	.02*
Gender	.02	0.43		
Age	−.05	−0.71		
Relationship Length	−.08	−1.12		
Dysfunctional Attitudes	.18	3.04**		
Major Stressors	.08	1.32		
Self-Concept Clarity	−.48	−7.64***		
Self-Expansion	−.12	−2.24*		

Note. *$p < .05$. **$p < .01$. ***$p < .001$. Gender coded 0 = men, 1 = women.

adjusted $R^2 = .40$. When self-expansion was added in Step 3, there was a significant increase in the model R^2, $\Delta R^2 = .02$, $\Delta F(1, 194) = 5.03$, $p = .026$ and in this final step, dysfunctional attitudes ($p = .003$) were positively associated with depression symptoms, whereas self-expansion ($p = .026$) and self-concept clarity ($p < .001$) were negatively associated with depression symptoms.

Additionally, we examined whether self-expansion would predict whether a person meets the diagnostic criteria for depression screening using a CES-D cutoff score of 20 (Vilagut et al., 2016). In the current sample, 28.57% ($n = 58$) of the participants met this diagnostic criterion, whereas 71.43% ($n = 145$) did not. We conducted a logistic regression using age, gender, relationship length, dysfunctional attitudes, major stressors, self-concept clarity, and self-expansion as predictors and depression status as the outcome. The results revealed that self-expansion was a significant predictor of depression status, $Exp(B) = 0.60$, $p = .018$, as were dysfunctional attitudes ($Exp(B) = 5.29$, $p = .001$) and self-concept clarity ($Exp(B) = 0.24$, $p < .001$); major stressors ($Exp(B) = 1.13$, $p = .052$) and gender ($Exp(B) = 2.06$, $p = .084$) were marginal predictors, and all other ps > .52. For each unit increase in self-expansion, participants were 40% less likely to meet the diagnostic screening criteria for depression.

Discussion

This study tested the robustness of the association between self-expansion and depression symptoms by controlling for demographic variables, as well as known predictors of depression (i.e., dysfunctional attitudes, major stressors, and self-concept clarity). Replicating and extending Study 1, self-expansion predicted fewer depression symptoms, both directly and after including rigorous controls. Additionally, self-expansion significantly predicted whether participants met the CES-D diagnostic cutoff for depression.

Studies 1 and 2 used general population internet-based samples of people in romantic relationships; however, these studies were cross-sectional and unable to examine day-to-day variation in self-expansion and depression symptoms. Additionally, Studies 1 and 2 examined the role of relational self-expansion on depression symptoms for only one relationship partner. Accordingly, Study 3 sought to extend our prior work in two main ways. First, the study used a daily experience methodology that allowed us to examine day-to-day variation in self-expansion and depression symptoms, as prior research reveals that self-expansion measured at the daily level predicts meaningful relationship outcomes (e.g., Muise et al., 2019). Second, Study 3 was dyadic in nature, which allowed us to explore not only how one's *own* self-expansion predicts one's own depression symptoms (i.e., actor effects), but also how one's *partner's* self-expansion predicts one's own depression symptoms (i.e., partner effects).

Conceptually consistent with our prior studies, we first hypothesized that a given day's actor self-expansion would predict lower actor depression symptoms the same day.[5] Next, we explored whether a partner's self-expansion on a given day would predict lower actor depression symptoms the same day. However, given the equivocal existing evidence regarding partner effects with self-expansion (see Joel et al., 2020; McIntyre et al., 2020; Muise et al., 2019), we did not advance confirmatory predictions for partner effects. Additionally, the daily diary methodology allowed us to explore whether a given day's self-expansion would predict lower depression symptoms the following day by conducting lagged actor and partner analyses.

Because previous research has revealed that self-expansion predicts outcomes over time (e.g., Mattingly et al., 2019), we also hypothesized that actor daily self-expansion would predict actor depression symptoms 2 months later. Finally, we did not advance confirmatory predictions regarding longitudinal partner effects.

Study 3

Method

Participants. We determined the sample size for Study 3 using an a priori APIMPowerR analysis (https://robert-ackerman.shinyapps.io/APIMPowerR/), which suggested that approximately 100 couples would provide power of .84 for small-to-medium actor and partner effect sizes. The final sample comprised 100 romantic couples (87 heterosexual dyads, 9 lesbian dyads, 1 gay dyad, 3 other non-binary dyads; 105 women, 89 men, 2 trans men, 3 nonbinary/genderqueer, and 1 who did not specify) recruited from a university in

the United Kingdom and surrounding community via social media posts, advertisements in local magazines, and at local wedding fairs. Eligible participants were at least 18 years old, fluent in English, in a relationship lasting at least 3 months, and had regular access to the Internet. Both partners were required to participate in the study. Participants were 18–64 years of age ($M = 24.15$, $SD = 6.61$) and were in relationships lasting 3 months to 35.50 years ($M = 2.84$ years, $SD = 4.41$). Participants identified their race/ethnicity as White (85.50%), Latinx (3.00%), East Asian (1.50%), South Asian (2.50%), Southeast Asian (2.50%), bi-/multi-racial (3.00%), and "other" (2.00%). Approximately 85.50% of the sample were dating casually or exclusively, 6.50% were married, 5.00% were engaged, 1.50% were common-law, and 1.50% were in a civil partnership. A minority of couples (38.00%) were cohabiting. Additionally, 70.50% of the sample were university students; 59.50% had a high school degree, 5% had a vocational degree, 20% had an undergraduate degree, 15.50% had an advanced degree; 59% worked full- or part-time and 41% were not currently employed.

Procedure and Materials. We used data from a larger three-phase longitudinal study of couples' experiences in relationships.[6] In Phase 1, couples arrived at the lab together and provided informed consent. They then completed several tasks including a battery of questionnaires that contained demographic measures. During Phase 2, we asked partners to complete a 15-minute online survey each day for 14 consecutive days, which included measures of daily self-expansion and depression symptoms. On average, participants completed a high number of daily surveys ($M = 12.96$, $SD = 2.01$). Phase 3 began 2 months after the end of Phase 2 and involved a 45-minute online follow-up survey which included a measure of depression symptoms. Because two couples dissolved between Phases 2 and 3, we collected data at Phase 3 for the 98 couples who remained intact. After finishing Phase 3, partners were compensated up to GBP £50.00 each based on how many parts of the study they completed.

Demographics. At Phase 1, participants reported their gender, age, and relationship length, which allowed us to examine results when these variables were included as covariates.

Self-Expansion. During Phase 2, daily self-expansion was measured with 3 items from the SEQ (Lewandowski & Aron, 2002) adapted for the daily level (e.g., "Today, I gained more insights, experiences, and/or knowledge from my partner"). Participants responded to items on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). We used a small subset of items rather than the full scale to minimize participant burden and reduce the risk of attrition during the diary period (Bolger et al., 2003). We calculated scores by averaging responses across items, with higher scores indicating greater daily self-expansion ($\alpha = .81$; $M = 4.71$, $SD = 1.30$).

Depression Symptoms. Baseline depression symptoms were measured at Phase 1 with the PHQ-9 (Kroenke et al., 2001). Participants indicated how often they experienced nine depression symptoms (e.g., "Little interest or pleasure in doing things") using a 4-point

scale (0 = *not at all*, 3 = *nearly every day*). We calculated scores by summing responses across items, with higher scores indicating greater baseline depression symptoms (α = .86; *M* = 6.98, *SD* = 5.24). We controlled for baseline depression in follow-up depression models.

Daily depression symptoms were measured each day during Phase 2 with a checklist version of the PHQ-9 (Kroenke et al., 2001). Participants selected which of the 9 depression symptoms they had experienced that day (0 = *no*, 1 = *yes*). We calculated scores by summing responses across items, with higher scores indicating greater daily depression symptoms (*M* = 1.36, *SD* = 1.65).

Follow-up depression symptoms were measured at Phase 3 with the regular version of the PHQ-9 (Kroenke et al., 2001) and scored the same way as Phase 1 (α = .88; *M* = 6.89, *SD* = 5.29).

Results

The Actor-Partner Interdependence Model guided our data analytic approach (APIM; Kenny, 1996; Kenny & Cook, 1999). The APIM allows us to consider, for example, how one's own depression symptoms were predicted not only by a participant's *own* self-expansion (i.e., an *actor effect*), but also by their *partner's* self-expansion (i.e., a *partner effect*). Including both actor and partner effects tests and statistically accounts for the mutual influence that exists between partners in a relationship. We tested models using multilevel modelling (MLM), following the suggestions of Kenny et al. (2006) regarding the use of MLM with indistinguishable dyadic data (i.e., nesting partners' scores within a group of *N* = 2).

We first ran a confirmatory over-time APIM testing if actor and partner self-expansion on a given day predicted lower depression symptoms the same day. We then ran an exploratory lagged over-time APIM testing if actor and partner self-expansion on a given day also predicted lower depression symptoms the following day. In the daily-level models, we estimated the residual matrix using an ARH1 structure, which we chose because it accounts for the fact that observations closer in time are more similar than observations further apart in time (e.g., Dobson et al., 2020). We also controlled for the previous day's depression symptoms to isolate any effects to a given day. We tested both between-person (i.e., where continuous predictors were centered on the grand mean) and within-person (i.e., where continuous predictors were centered on a given participant's own mean across days) effects. Finally, we ran a confirmatory over-time APIM testing if actor and partner daily self-expansion predicted lower follow-up depression symptoms 2 months later. In follow-up models, we controlled for baseline (Phase 1) depression symptoms to isolate any effects to Phase 3. We ran two models per analysis; the first model included only our primary variables of interest, and the second model added gender, age, and relationship length as covariates (as in Studies 1 and 2). Main results also appear in Table 3.

Associations with Daily Depression Symptoms. In line with hypotheses and our previous studies, our first over-time APIM revealed between-person effects such that, across

Table 3. Summary of Study 3 Results for Self-Expansion Predicting Depression Symptoms.

	Actor	Partner
Between-person effects		
Self-Expansion (no-covariate model)	−.08*	−.03
Self-Expansion (covariate model)	−.08*	−.03
Within-person effects		
Self-Expansion (no-covariate model)	−.08*	−.04
Self-Expansion (covariate model)	−.08*	−.05
Lagged effects (between)		
Self-Expansion (no-covariate model)	−.03	−.004
Self-Expansion (covariate model)	−.03	−.01
Lagged effects (within)		
Self-Expansion (no-covariate model)	−.03	−.05
Self-Expansion (covariate model)	−.01	−.06
Longitudinal effects		
Self-Expansion (no-covariate model)	−.83†	.10
Self-Expansion (covariate model)	−.76†	−.04

Note. †$p < .10$, *$p < .05$.

participants, individuals with higher self-expansion on a given day experienced lower depression symptoms the same day, $b(SE) = -.08(.03)$, $CI_{95\%} = [-.14, -.02]$, $p = .015$ (no-covariate model), $b(SE) = -.08(.03)$, $CI_{95\%} = [-.14, -.02]$, $p = .012$ (covariate model). There were no between-person partner effects of daily self-expansion predicting same-day depression symptoms, $b(SE) = -.03(.03)$, $CI_{95\%} = [-.09, .03]$, $p = .349$ (no-covariate model), $b(SE) = -.03(.03)$, $CI_{95\%} = [-.10, .03]$, $p = .303$ (covariate model).

Analyses also revealed within-person effects such that individuals whose self-expansion was higher on a given day than usual for them experienced lower depression symptoms the same day, $b(SE) = -.08(.04)$, $CI_{95\%} = [-.15, -.01]$, $p = .028$ (no-covariate model), $b(SE) = -.08(.04)$, $CI_{95\%} = [-.15, -.01]$, $p = .032$ (covariate model). There were no within-person partner effects of daily self-expansion predicting same-day depression symptoms, $b(SE) = -.04(.04)$, $CI_{95\%} = [-.12, .03]$, $p = .247$ (no-covariate model), $b(SE) = -.05(.04)$, $CI_{95\%} = [-.12, .03]$, $p = .212$ (covariate model).

Our exploratory lagged analyses revealed no between-person evidence that actor self-expansion on a given day predicted depression symptoms the following day, $b(SE) = -.03(.03)$, $CI_{95\%} = [-.09, .04]$, $p = .400$ (no-covariate model), $b(SE) = -.03(.03)$, $CI_{95\%} = [-.09, .04]$, $p = .411$ (covariate model). There were also no between-person partner effects in the lagged analyses, $b(SE) = -.004(.04)$, $CI_{95\%} = [-.07, .07]$, $p = .915$ (no-covariate model), $b(SE) = -.01(.04)$, $CI_{95\%} = [-.09, .06]$, $p = .758$ (covariate model). Similarly, there were no within-person actor effects, $b(SE) = -.03(.04)$, $CI_{95\%} = [-.12, .05]$, $p = .472$ (no-covariate model), $b(SE) = -.01(.05)$, $CI_{95\%} = [-.12, .09]$, $p = .798$ (covariate model), as well as no within-person partner effects, $b(SE) = -.05(.05)$, $CI_{95\%} = [-.14, .04]$, $p = .305$ (no-covariate model), $b(SE) = -.06(.05)$, $CI_{95\%} = [-.17, .04]$, $p =$

.223 (covariate model). Thus, at the daily level, the benefits of higher self-expansion (both between- and within-person) occurred solely on the same day and solely for individuals themselves.

Associations with Follow-Up Depression Symptoms. Our final over-time APIM revealed that individuals with higher self-expansion during Phase 2 experienced marginally lower depression symptoms 2 months later, $b(SE) = -.83(.44)$, $CI_{95\%} = [-1.71, .04]$, $p = .062$ (no-covariate model), $b(SE) = -.76(.45)$, $CI_{95\%} = [-1.65, .12]$, $p = .090$ (covariate model). There were no partner effects of Phase 2 self-expansion predicting Phase 3 depression symptoms, $b(SE) = .10(.44)$, $CI_{95\%} = [-.77, .98]$, $p = .820$ (no-covariate model), $b(SE) = -.04(.44)$, $CI_{95\%} = [-.91, .84]$, $p = .929$ (covariate model).

Discussion

Replicating and extending Studies 1 and 2, the results of Study 3 supported our hypothesis that self-expansion would predict depression symptoms at the between-person and within-person levels. That is, people reporting higher (vs. lower) levels of self-expansion reported fewer depression symptoms; moreover, on days in which individuals reported higher than typical daily self-expansion, they also reported lower than typical depression symptoms. We also found marginal support for the longitudinal benefits of self-expansion, such that individuals' own self-expansion across 14 days predicted (albeit marginally) their depression symptoms 2 months later. We did not find support for our exploratory research questions regarding daily lagged effects or partner effects.

Given the promising, but admittedly tenuous, support for the long-term benefits of relational self-expansion for depression symptoms, we sought to further test this possibility. In Study 4, we tracked people in early-stage relationships over the course of nine months, which allowed us to further test the hypothesis that self-expansion has longitudinal benefits for individuals. In particular, we sought to examine whether changes in relational self-expansion over time predict the experience of depression symptoms. We additionally sought to broaden our investigation of the benefits of self-expansion by assessing overall mental health functioning. To do this, we included a global measure of mental health, in addition to depression symptoms.

Study 4

Method

Participants. The data for the Study 4 analyses were drawn from the University of Texas Dating and Transition Experiences Study (UT-DATES), a larger study designed to examine emerging adults' experiences during the early phases of dating relationships.[7] Participants earned up to $75 USD in exchange for their participation. Eligible participants were over the age of 18, in good mental and physical health with no prior diagnosis of depression or an anxiety disorder, residents of Austin or the surrounding area for the duration of the study, and in a relationship of less than 6 months duration; those who met

these eligibility criteria were subsequently contacted by an undergraduate research assistant who provided more details about the study.

These data existed prior to the conceptualization of the current research; thus, a corresponding a priori power analysis was not possible. However, the final sample (N = 109) permitted us to detect cross-sectional effects of r = .26 (α = .05, power = .80) and given the repeated-measures nature of Study 4's design, this suggests that Study 4 was satisfactorily powered.

In total, 245 individuals (70 men, 175 women) enrolled in the study; however, the current analyses include only those participants who were continuously involved with the same partner for the duration of the study and completed target variables of interest (n = 109; 27 men, 82 women; 95.4% were university students). Most respondents were involved in heterosexual relationships (94%), with the exception of 7 individuals involved in same-sex relationships (all woman-woman). Participants ranged in age from 18 to 25 years (M = 20.49, SD = 1.85), and just under half of respondents self-identified as non-Hispanic Whites (48.6%); a substantial minority of participants self-described as Asian (18.1%) or Hispanic (24.8%), with the remaining participants describing themselves as either other/multi-racial or "don't know" (8.6%). Participants' relationship length at the outset of the study ranged from 2 to 177 days (M = 94.31 days, SD = 52.85).

Procedure and Materials. Participants received a link to the baseline questionnaire. Nine months later, participants received a final questionnaire consisting of the conceptual variables of interest.

Demographics. At the start of the study, individuals provided basic demographic information about their age, race and ethnicity, student status, gender, partners' gender, and their current relationship length.

Self-Expansion. Participants completed a modified 6-item measure of self-expansion (Lewandowski & Aron, 2002) in which the partner's name was integrated into each item. Sample items include "Being with [partner name] results in my having new experiences," and "[Partner name] increases my knowledge." Respondents indicated their agreement with each statement on a 9-point scale (1 = *strongly disagree*, 9 = *strongly agree*). The scale demonstrated high reliability at baseline (α = .90, M = 7.37, SD = 1.32) and at the final measurement (α = .95; M = 7.57, SD = 1.47; Δ = 0.20, SD = 1.14).

Mental Health. Participants completed the SF-36 Health Survey (Ware & Sherbourne, 1992). The full scale is a 36-item survey of general physical and mental health, not specific to any disease or age group. Relevant to the current study, the survey includes a five-item *mental health* subscale for which participants were asked to indicate "how much of the time during the past 2 weeks" they experienced a number of mental health outcomes including questions such as "Have you been a very nervous person?" and "Have you felt downhearted and blue?" Participants responded on a 5-point scale (1 = *all of the time*, 5 = *none of the time*). Per published guidelines, the scale was rescored on a 0-100 scale, with higher scores indicating poorer mental health functioning. This scale demonstrated

acceptable reliability at both baseline (α = .77; M = 25.23, SD = 15.11) and the final measurement (α = .75; M = 26.42, SD = 14.87).

Depression Symptoms. Participants subsequently completed the CES-D (Radloff, 1977). Unlike Studies 1 and 2, responses were made on a 9-point scale (1 = *none of the time*, 9 = *all of the time*). Higher scores reflect greater depression symptoms. At both baseline (α = .92; M = 2.77, SD = 1.09) and the final measurement (α = .92; M = 2.57, SD = 1.08; Δ = −0.20, SD = 1.07), the CES-D demonstrated high reliability.

Results

To test the hypothesis that self-expansion predicts depression symptoms over time, we conducted a multiple regression to predict final CES-D score based on baseline CES-D, baseline self-expansion, and change in self-expansion (i.e., predicting residualized change in depression over time). The overall regression equation was significant, $F(3, 105)$ = 15.34, $p < .001$, $R^2 = .31$. Baseline self-expansion was not associated with final depression scores (β = −0.01, t = −0.13, p = .90, $CI_{95\%}$: [−.18, .16]); however, change in self-expansion predicted final CES-D scores (β = −.21, t = −2.33, p = .022, $CI_{95\%}$: [−.38, -.03]) such that increases in self-expansion over time were associated with lower levels of depression at the final survey.

As in the previous studies, we examined whether this association would remain significant when controlling for gender, age, and relationship length. Change in self-expansion remained a statistically significant predictor (β = −.22, t = −2.58, p = .011, $CI_{95\%}$: [−.40, -.05]) of residualized change in depression after adding participant gender (0 = men; 1 = women; β = .12, t = 1.47, p = .15, $CI_{95\%}$: [−.04, .29]), age (β = −.12, t = −1.39, p = .17, $CI_{95\%}$: [−.28, .05]), and relationship length (β = −.15, t = −1.71, p = .09, $CI_{95\%}$: [−.31, .02]) to the original model.

We next explored participants' final SF-36 mental health scores, including baseline SF-36 mental health, baseline self-expansion, and change in self-expansion, and found the overall regression equation was significant, $F(3, 105)$ = 12.36, $p < .001$, R^2 = .26. Mirroring the results for depression, baseline self-expansion was not associated with final mental health (β = −.11, t = −1.22, p = .23, $CI_{95\%}$: [−.28, .07]); however, change in self-expansion did significantly predict final mental health scores (β = −.30, t = −3.35, p = .001, $CI_{95\%}$: [−.48, -.12]) such that increases in self-expansion over time were associated with greater mental health functioning at the final survey approximately 36 weeks after baseline.

Discussion

Study 4 builds upon the first three studies by providing convergent and robust evidence for the association between self-expansion and depression symptoms by showing that increases in relational self-expansion predict decreases in depression symptoms. As in the first three studies, this effect remained after controlling for gender, age, and relationship length. Study 4 also extends the previous findings by demonstrating that the protective

benefits of self-expansion may generalize more broadly to mental health. In support of this notion, increases in self-expansion predicted greater mental health functioning over 9-months.

General Discussion

The self-expansion model is an influential and theoretically generative model and previous research shows that self-expansion promotes a variety of benefits for relationships, such as increased satisfaction and commitment (Aron et al., 2013; Mattingly et al., 2014; McIntyre et al., 2015), as well as a variety of benefits for individuals within relationships, including higher positive affect (Stanton et al., 2020) and self-concept clarity (Emery et al., 2015). The current findings extend this literature by demonstrating that self-expansion is associated with individuals' mental health. Across four studies, we found that individuals who experience higher levels of self-expansion within their romantic relationships report fewer symptoms of depression. In addition, we found that the association between self-expansion and depression symptoms is robust, as it remains significant when controlling for demographic variables (i.e., age, gender, and relationship length) and well-established predictors of depression (i.e., dysfunctional attitudes, major stressors, self-concept clarity). We found cross-sectional, daily, and longitudinal support for this association.

Self-expansion seems to fundamentally alter individuals' self-concepts in a way that confers widespread benefits for relationships and the individuals within them. When they add self-concept content via self-expansion, individuals gain identities, perspectives, and resources upon which they are later able to draw (see Aron et al., 2013; Mattingly et al., 2020). Consequently, self-expansion may allow individuals to develop and strengthen affective, cognitive, and motivational self-resources, which in turn protect individuals in the face of threat (e.g., relational conflict, external stressors). This suggests that just as external stressors can spill over into relationship processes (e.g., Neff & Karney, 2009), relational processes, such as self-expansion, may modulate people's experience of life's challenges such that they are protected from widespread mental health problems. Supporting this premise, prior literature links self-expansion to increased self-efficacy (Mattingly & Lewandowski, 2013), approach motivation (e.g., Harasymchuk et al., 2021; Mattingly et al., 2012), and personal agency (e.g., Besta et al., 2016), each of which confer protective benefits. The current results are the first steps toward establishing this theoretical possibility, and direct evidence is needed to examine the mechanisms by which self-expansion affects psychological health.

Importantly, one assumption of this conceptualization is that self-expansion equips individuals with additional psychological tools and resources to combat distress. This perspective also implies that having too few self-expansion opportunities may leave individuals vulnerable to negative life events. For example, an individual who primarily relies upon suppression when regulating their emotions may struggle to maintain emotional equilibrium in response to a major stressor, such as job loss. If, however, this person started a self-expanding relationship with a partner who helped them develop additional emotion regulation skills, such as reappraisal, this person may have additional

tools to help them fend off the stress of their job loss and thereby protect their mental health (cf. Feeney & Lemay, 2012).

This framework also allows for the possibility of a feedback loop, such that individuals who experience low self-expansion levels may become more likely to experience depression symptoms, which could in turn reduce their motivation to engage in future self-expansion. Supporting this idea, depressed individuals tend to exhibit a reduced behavioral repertoire (Jacobson et al., 2001) and often stop socializing, stop going to work or school, and spend large amounts of time doing nothing (Persons et al., 2001). As a result, these individuals may have limited self-expansion opportunities.

Partners may therefore actively seek to promote self-expansion within their relationships as a means of not only improving their relationships but also their psychological health. Previous research demonstrates that couples can enhance their relationships by seeking out self-expansion opportunities (e.g., Harasymchuk et al., 2021). Doing so may be especially important within long-term relationships, as self-expansion is theorized to wane over time (Aron et al., 2013).

Strengths, Limitations, and Future Directions

A notable strength of the current research is our use of a multi-measure, multimethod approach. The current findings were consistent across different measures of depression symptoms (e.g., PHQ-9, CES-D) and for a measure of mental health (i.e., SF-36), as well as different methodological approaches (e.g., cross-sectional, dyadic, longitudinal). We recruited participants from multiple sources (i.e., universities, the community, and online platforms) and represented relationships of varying length and type (i.e., burgeoning relationships to established marriages), which presumably increases the generalizability of the results.

Nevertheless, several limitations should be considered when interpreting the current results. First, although this research found consistent support for the association between self-expansion and depression symptoms, we did not design the studies to examine potential mechanisms or boundary conditions. It is possible that the benefits of self-expansion might be stronger or weaker depending upon relationship factors (e.g., trust, closeness, implicit theories of relationships) or individual differences (e.g., personality traits, attachment style). For example, it may be that individuals high in attachment insecurity will yield greater self-expansion benefits for depression symptoms, as self-expansion may alter internal working models of self and other and may strengthen emotional bonds (Kumashiro & Arriaga, 2020; Stanton & Dobson, 2021). Additionally, the inconsistent longitudinal benefits for relational self-expansion found across Studies 3 and 4 could be attributable to the differences between samples, with Study 3 sampling individuals from established relationships and Study 4 sampling individuals exclusively in early-stage relationships. It is also possible that more chronic levels of self-expansion confer unique personal and relational benefits that daily levels of self-expansion do not, as the effects in Study 3 were limited to same-day (and not next-day) depression symptoms. Another potential boundary condition may be the level of self-expansion, as extreme levels of self-expansion (e.g., overly challenging activities, amoebic self-other

integration; Burris et al., 2013; Graham, 2008) may be detrimental. Future research should further identify and test mechanisms and boundary conditions for the association, as the goal of the current study was to find support for the basic association between self-expansion and depression symptoms and test robustness of the association.

Second, we did not specifically recruit participants with a clinical diagnosis of depression. In Studies 1 and 2, we recruited a general population sample using Mturk, Study 3 recruited a community sample and in Study 4 participants were specifically prescreened to exclude those with a previous diagnosis of depression and anxiety. However, the methodologies used in Studies 1 and 2 allowed us to assess whether participants met diagnostic screening criteria for depression (Kroenke & Spitzer, 2002; Vilagut et al., 2016). In both studies, self-expansion predicted classification status of depression level (i.e., met criteria or did not meet screening criteria). Nevertheless, an important next step for future research is to examine self-expansion experiences among those who have been diagnosed as clinically depressed (vs. those who are not diagnosed as depressed).

Third, each of our studies relied on self-report to assess both the mental health variables and self-expansion. Given that depression is associated with a variety of memory-biases (e.g., Matt et al., 1992), depressed participants may misremember the nature and/or frequency of self-expanding experiences in a mood-congruent fashion. However, Study 3's daily diary methods may help mitigate the concerns associated with the retrospective nature of the measures we used to assess depression due to the relative immediacy of the assessment. Nevertheless, future research should employ experimental designs to examine changes in mental health functioning following exposure to self-expanding experiences, so that causality can be directly tested.

Fourth, although we measured and controlled for some demographic factors in all studies (i.e., age, relationship length, gender), and assessed other demographics in some of these studies (e.g., Study 3), future studies should measure and explore the role of additional demographic variables such as diverse gender identities and income.

Future research should further examine the dyadic nature of self-expansion. Notably, the current results mirror previous findings showing that self-expansion is associated with actor effects, but that partner effects are inconsistent (i.e., McIntyre et al., 2020; see also Joel et al., 2020). This raises the possibility that self-expansion may work more at an individual level and various dyadic effects occur further downstream. More research is needed to examine if and when self-expansion leads to dyadic effects.

Finally, prior research supports the possibility that people can experience self-expansion through non-relational means (e.g., Carswell et al., 2021) and in non-romantic social contexts, such as the workplace (e.g., McIntyre et al., 2014). Future research should explore whether these forms of self-expansion are associated with similar mental health benefits to those offered by relational self-expansion.

Conclusion

Romantic relationships are beneficial for mental health, in part, because they can fundamentally alter individuals' self-concepts. The current findings are the first to reveal that when individuals add positive content to their self-concepts (i.e., when they self-expand)

as a result of their relationship, they tend to experience fewer symptoms of depression and greater mental health functioning over time. These findings add to the literature that catalogues the benefits of romantic relationships by demonstrating that self-expansion is important for individuals beyond improving relationship dynamics.

Declaration of Conflicting Interests

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Open research statement

As part of IARR's encouragement of open research practices, the author(s) have provided the following information:

Supplemental Material

Supplemental material for this article is available online.

Notes

1. Additional methodological details for all studies are available in Supplemental Materials.
2. Study 1 materials and data are available at https://osf.io/jn4q2/.
3. Unless otherwise noted, across all four studies, all scales were calculated using the mean of the items.
4. Study 2 materials and data are available at https://osf.io/jn4q2/.
5. Study 3 hypotheses and analytic plan were pre-registered and are available at https://osf.io/pqevh/.
6. https://osf.io/ekv6x/
7. A full listing of all Study 4 variables in the order they were administered can be viewed at https://osf.io/nd9xe/.

References

Alloy, L. B., Abrahmson, L. Y., Whitehouse, W. G., Hogan, M. E., Panzarella, C., & Rose, D. T. (2006). Prospective incidence of first onsets and recurrences of depression in individuals at high and low cognitive risk for depression. *Journal of Abnormal Psychology*, *115*(1), 145–156. https://doi.org/10.1037/0021-843X.115.1.145

Aron, A., Lewandowski, G. W., Jr., Mashek, D., & Aron, E. N. (2013). The self-expansion model of motivation and cognition in close relationships. In J. A. Simpson, & L. Campbell (Eds.), *The Oxford handbook of close relationships* (pp. 90–105). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195398694.013.0005

Aron, A., Norman, C. C., Aron, E. N., McKenna, C., & Heyman, R. E. (2000). Couples' shared participation in novel and arousing activities and experienced relationship quality. *Journal of Personality and Social Psychology*, *78*(2), 273–284. https://doi.org/10.1037//0022-3514.78.2.273

Aron, A., Paris, M., & Aron, E. N. (1995). Falling in love: Prospective studies of self-concept change. *Journal of Personality and Social Psychology*, *69*(6), 1102–1112. https://doi.org/10.1037/0022-3514.69.6.1102

Arriaga, X. B., Kumashiro, M., Simpson, J. A., & Overall, N. C. (2018). Revising working models across time: Relationship situations that enhance attachment security. *Personality and Social Psychology Review*, *22*(1), 71–96. https://doi.org/10.1177/1088868317705257

Beck, A. T., & Alford, B. A. (2009). *Depression: Causes and treatment* (2nd ed.). University of Pennsylvania Press.

Beevers, C. G., Strong, D. R., Meyer, B., Pilkonis, P. A., & Miller, I. W. (2007). Efficiently assessing negative cognition in depression: An item response theory analysis of the Dysfunctional Attitude Scale. *Psychological Assessment*, *19*(2), 199–209. https://doi.org/10.1037/1040-3590.19.2.199

Besta, T., Mattingly, B. A., & Blażek, M. (2016). When membership gives strength to act: Inclusion of the group into the self and feeling of personal agency. *Journal of Social Psychology*, *156*(1), 56–73. https://doi.org/10.1080/00224545.2015.1053838

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual Review of Psychology*, *54*(1), 579–616. https://doi.org/10.1146/annurev.psych.54.101601.145030

Braithwaite, S. R., Delevi, R., & Fincham, F. D. (2010). Romantic relationships and the physical and mental health of college students. *Personal Relationships*, *17*(1), 1–12. https://doi.org/10.1111/j.1475-6811.2010.01248.x

Branand, B., Mashek, D., & Aron, A. (2019). Pair-bonding as inclusion of other in the self: A literature review. *Frontiers in Psychology*, *10*(Article 2399), 1–5. https://doi.org/10.3389/fpsyg.2019.02399

Brenes, G. A., Penninx, B. W. J. H., Judd, P. H., Rockwell, E., Sewell, D. D., & Wetherell, J. L. (2008). Anxiety, depression and disability across the lifespan. *Aging and Mental Health*, *12*(1), 158–163. https://doi.org/10.1080/13607860601124115

Burris, C. T., Rempel, J. K., Munteanu, A. R., & Therrien, P. A. (2013). More, more, more: The dark side of self-expansion motivation. *Personality and Social Psychology Bulletin*, *39*(5), 578–595. https://doi.org/10.1177/0146167213479134

Campbell, J. D., Assanand, S., & DiPaula, A. (2003). The structure of the self-concept and its relation to psychological adjustment. *Journal of Personality*, *71*(1), 115–140. https://doi.org/10.1111/1467-6494.t01-1-00002

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, *70*(1), 141–156. https://doi.org/10.1037/0022-3514.70.1.141

Carr, D., Freedman, V. A., Cornman, J. C., & Schwarz, N. (2014). Happy marriage, happy life? Marital quality and subjective well-being in later life. *Journal of Marriage and Family*, *76*(5), 930–948. https://doi.org/10.1111/jomf.12133

Carswell, K. L., Muise, A., Harasymchuk, C., Horne, R. M., Visserman, M. L., & Impett, E. A. (2021). Growing desire or growing apart? Consequences of personal self-expansion for romantic passion. *Journal of Personality and Social Psychology*, *121*(2), 354–377. https://doi.org/10.1037/pspi0000357

Cloutier, A., & Peetz, J. (2017). People, they are a changin': The links between anticipating change and romantic relationship quality. *Journal of Social and Personal Relationships*, *34*(5), 676–698. https://doi.org/10.1177/0265407516652967

Coulter, K., & Malouff, J. M. (2013). Effects of an intervention designed to enhance romantic relationship excitement: A randomized-control trial. *Couple and Family Psychology: Research and Practice*, *2*(1), 34–44. https://doi.org/10.1037/a0031719

Diener, M. L., & DienerMcGavran, M. B. (2008). What makes people happy? A developmental approach to the literature on family relationships and well-being. In M. Eid, & R. J. Larsen (Eds.), *The science of subjective well-being* (pp. 347–375). Guilford Press.

Dobson, K., Zhu, J., Balzarini, R. N., & Campbell, L. (2020). Responses to sexual advances and satisfaction in romantic relationships: Is yes good and no bad? *Social Psychological and Personality Science*, *11*(6), 801–811. https://doi.org/10.1177/1948550619888884

Emery, L. F., Walsh, C., & Slotter, E. B. (2015). Knowing who you are and adding to it: Reduced self-concept clarity predicts reduced self-expansion. *Social Psychological and Personality Science*, *6*(3), 259–266. https://doi.org/10.1177/1948550614555029

Feeney, B. C., & Lemay, E. P., Jr. (2012). Surviving relationship threats: The role of emotional capital. *Personality and Social Psychology Bulletin*, *38*(8), 1004–1017. https://doi.org/10.1177/0146167212442971

Graham, J. M. (2008). Self-expansion and flow in couples' momentary experiences: An experience sampling study. *Journal of Personality and Social Psychology*, *95*(3), 679–694. https://doi.org/10.1037/0022-3514.95.3.679

Harasymchuk, C., & Fehr, B. (2013). A prototype analysis of relational boredom. *Journal of Social and Personal Relationships*, *30*(5), 627–646. https://doi.org/10.1177/0265407512464483

Harasymchuk, C., Walker, D. L., Muise, A., & Impett, E. A. (2021). Planning date nights that promote closeness: The roles of relationship goals and self-expansion. *Journal of Social and Personal Relationships*, *38*(5), 1692–1709. https://doi.org/10.1177/02654075211000436

Hilt, L. M., & Nolen-Hoeksema, S. (2014). Gender differences in depression. In I. H. Gotlib, & C. L. Hammen (Eds), *Handbook of depression* (3rd ed, pp. 355–373). Guilford Press.

Holmes, T. H., & Rahe, R. H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research*, *11*(2), 213–218. https://doi.org/10.1016/0022-3999(67)90010-4

Jacobson, N. S., Martell, C. R., & Dimidjian, S. (2001). Behavioral activation treatment for depression: Returning to contextual roots. *Clinical Psychology: Science and Practice*, *8*(3), 255–270. https://doi.org/10.1093/clipsy.8.3.255

Jakubiak, B. K., & Tomlinson, J. M. (2020). The role of social support in promoting self-development. In B. A. Mattingly, K. P. McIntyre, & G. W. Lewandowski Jr. (Eds.), *Interpersonal relationships and the self concept* (pp. 125–143). Springer. https://doi.org/10.1007/978-3-030-43747-3_8

Joel, S., Eastwick, P. W., Allison, C. J., Arriaga, X. B., Baker, Z. G., Bar-Kalifa, E., Bergeron, S., Birnbaum, G. E., Brock, R. L., Brumbaugh, C. C., Carmichael, C. L., Chen, S., Clarke, J., Cobb, R. J., Coolsen, M. K., Davis, J., de Jong, D. C., Debrot, A., DeHaas, E. C., & Wolf, S. (2020). Machine learning uncovers the most robust self-report predictors of relationship quality across 43 longitudinal couples studies. *Proceedings of the National Academy of Sciences*, *117*(32), 19061–19071. https://doi.org/10.1073/pnas.1917036117

Joel, S., MacDonald, G., & Page-Gould, E. (2018). Wanting to stay and wanting to go: Unpacking the content and structure of relationship stay/leave decision processes. *Social Psychological and Personality Science*, *9*(6), 631–644. https://doi.org/10.1177/1948550617722834

Kenny, D. A. (1996). Models of non-independence in dyadic research. *Journal of Social and Personal Relationships*, *13*(2), 279–294. https://doi.org/10.1177/0265407596132007

Kenny, D. A., & Cook, W. (1999). Partner effects in relationship research: Conceptual issues, analytic difficulties, and illustrations. *Personal Relationships*, *6*(4), 433–448. https://doi.org/10.1111/j.1475-6811.1999.tb00202.x

Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. Guilford Press.

Kessler, R. C. (1997). The effects of stressful life events on depression. *Annual Review of Psychology*, *48*(1), 191–214. https://doi.org/10.1146/annurev.psych.48.1.191

Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: A new depression diagnostic and severity measure. *Psychiatric Annals*, *32*(9), 509–515. https://doi.org/10.3928/0048-5713-20020901-06

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kumashiro, M., & Arriaga, X. B. (2020). Attachment security enhancement model: Bolstering attachment security through close relationships. In B. A. Mattingly, K. P. McIntyre, & G. W. Lewandowski Jr. (Eds.), *Interpersonal relationships and the self-concept* (pp. 69–88). Springer. https://doi.org/10.1007/978-3-030-43747-3_5

Lee-Flynn, S. C., Pomaki, G., DeLongis, A., Biesanz, J. C., & Puterman, E. (2011). Daily cognitive appraisals, daily affect, and long-term depressive symptoms: The role of self-esteem and self-concept clarity in the stress process. *Personality and Social Psychology Bulletin*, *37*(2), 255–268. https://doi.org/10.1177/0146167210394204

Lewandowski, G. W. Jr., & Aron, A. (2002, February). *The self-expansion scale: Construction and validation*. Savannah, GA: Paper presented at the annual meeting of the Society for Personality and Social Psychology Conference.

Lewandowski, G. W. Jr., Aron, A., Bassis, S., & Kunak, J. (2006). Losing a self-expanding relationship: Implications for the self-concept. *Personal Relationships*, *13*(3), 317–331. https://doi.org/10.1111/j.1475-6811.2006.00120.x

Lewinsohn, P. M., Hoberman, H. M., & Rosenbaum, M. (1988). A prospective study of risk factors for unipolar depression. *Journal of Abnormal Psychology*, *97*(3), 251–264. https://doi.org/10.1037//0021-843x.97.3.251

Loving, T. J., & Sbarra, D. A. (2015). Relationships and health. In J. A. Simpson, & J. F. Dovidio (Eds.), *APA handbook of personality and social psychology* (Vol. 3, pp. 151–176). APA Press. https://doi.org/10.1037/14344-006

Mattingly, B. A., & Lewandowski, G. W. Jr. (2013). An expanded self is a more capable self: The association between self-concept size and self-efficacy. *Self and Identity*, *12*(6), 621–634. https://doi.org/10.1080/15298868.2012.718863

Mattingly, B. A., McIntyre, K. P., Knee, C. R., & Loving, T. J. (2019). Implicit theories of relationships and self-expansion: Implications for relationship functioning. *Journal of Social and Personal Relationships*, *36*(6), 1579–1599. https://doi.org/10.1177/0265407518768079

Mattingly, B. A., McIntyre, K. P., & Lewandowski, G. W. Jr. (2012). Approach motivation and the expansion of self in close relationships. *Personal Relationships*, *19*(1), 113–127. https://doi.org/10.1111/j.1475-6811.2010.01343.x

Mattingly, B. A., McIntyre, K. P., & Lewandowski, G. W. Jr. (Eds.), (2020a). *Interpersonal relationships and the self-concept*. Springer.

Mattingly, B. A., Tomlinson, J. M., & McIntyre, K. P. (2020b). Advances in self-expansion. In L. V. Machia, C. R. Agnew, & X. B. Arriaga (Eds.), *Independence, interaction, and close relationships*. Cambridge University Press. https://doi.org/10.1017/9781108645836.012

Matt, G. E., Vázquez, C., & Campbell, W. K. (1992). Mood-congruent recall of affectively toned stimuli: A meta-analytic review. *Clinical Psychology Review*, *12*(2), 227–255. https://doi.org/10.1016/0272-7358(92)90116-p

McIntyre, K. P., Mattingly, B. A., Gorban, S. A., & Cope, M. A. (2020). Implications of relationship-induced self-concept change across partners: An Actor-Partner Interdependence Model approach. *Journal of Social and Personal Relationships*, *37*(5), 1554–1562. https://doi.org/10.1177/0265407520903799

McIntyre, K. P., Mattingly, B. A., & Lewandowski, G. W. Jr. (2015). When "we" changes "me": The two-dimensional model of relational self-change and relationship outcomes. *Journal of Social and Personal Relationships*, *32*(7), 857–878. https://doi.org/10.1177/0265407514553334

McIntyre, K. P., Mattingly, B. A., Lewandowski, G. W. Jr., & Simpson, A. (2014). Workplace self-expansion: Implications for job satisfaction, commitment, self-concept clarity, and self-esteem among the employed and unemployed. *Basic and Applied Social Psychology*, *36*(1), 59–69. https://doi.org/10.1080/01973533.2013.856788

Mearns, J. (1991). Coping with a breakup: Negative mood regulation expectancies and depression following the end of a romantic relationship. *Journal of Personality and Social Psychology*, *60*(2), 327–334. https://doi.org/10.1037//0022-3514.60.2.327

Muise, A., Harasymchuk, C., Day, L. C., Bacev-Giles, C., Gere, J., & Impett, E. A. (2019). Broadening your horizons: Self-expanding activities promote desire and satisfaction in established romantic relationships. *Journal of Personality and Social Psychology*, *116*(2), 237–258. https://doi.org/10.1037/pspi0000148

Neff, L. A., & Karney, B. R. (2009). Stress and reactivity to daily relationship experiences: How stress hinders adaptive processes in marriage. *Journal of Personality and Social Psychology*, *97*(3), 435–450. https://doi.org/10.1037/a0015663

Persons, J. B., Davidson, J., & Tompkins, M. A. (2001). *Essential components of cognitive behavior therapy for depression*. American Psychological Association.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*(3), 385–401. https://doi.org/10.1177/014662167700100306

Richman, S. B., Pond, R. S. Jr., DeWall, C. N., Kumashiro, M., Slotter, E. B., & Luchies, L. B. (2016). An unclear self leads to poor mental health: Self-concept confusion mediates the association of loneliness with depression. *Journal of Social and Clinical Psychology*, *35*(7), 525–550. https://doi.org/10.1521/jscp.2016.35.7.525

Ritchie, T. D., Sedikides, C., Wildschut, T., Arndt, J., & Gidron, Y. (2010). Self-concept clarity mediates the relation between stress and subjective well-being. *Self and Identity*, *10*(4), 493–508. https://doi.org/10.1080/15298868.2010.493066

Sbarra, D. A., Law, R. W., & Portley, R. M. (2011). Divorce and death: A meta-analysis and research agenda for clinical, social, and health psychology. *Perspectives on Psychological Science*, *6*(5), 454–474. https://doi.org/10.1177/1745691611414724

Sheets, V. L. (2014). Passion for life: Self-expansion and passionate love across the lifespan. *Journal of Social and Personal Relationships*, *31*(7), 958–974. https://doi.org/10.1177/0265407513515618

Simon, R. W., & Barrett, A. E. (2010). Nonmarital romantic relationships and mental health in early adulthood: Does the association differ for women and men? *Journal of Health and Social Behavior*, *51*(2), 168–182. https://doi.org/10.1177/0022146510372343

Slotter, E. B., Gardner, W. L., & Finkel, E. J. (2010). Who am I without you? The influence of romantic breakup on the self-concept. *Personality and Social Psychology Bulletin*, *36*(2), 147–160. https://doi.org/10.1177/0146167209352250

Sprecher, S., Felmlee, D., Metts, S., Fehr, B., & Vanni, D. (1998). Factors associated with distress following the breakup of a close relationship. *Journal of Social and Personal Relationships*, *15*(6), 791–809. https://doi.org/10.1177/0265407598156005

Stanton, S. C. E., & Dobson, K. (2021). *Helping me grow: Adult attachment, self-expansion experiences, and relationship quality*. Unpublished manuscript, University of Edinburgh.

Stanton, S. C. E., Slatcher, R. B., & Reis, H. T. (2019). Relationships, health, and well-being: The role of responsiveness. In D. Schoebi, & B. Campos (Eds.), *New directions in the psychology of close relationships* (pp. 118–135). Routledge. https://doi.org/10.4324/9781351136266-8

Stanton, S. C. E., Spence, K., Kähkönen, J. E., & Dobson, K. (2020). Individual and dyadic associations among relational self-expansion potential, affect, and perceived health. *Personal Relationships*, *27*(3), 550–570. https://doi.org/10.1111/pere.12331

Tomlinson, J. M., Hughes, E. K., Lewandowski, G. W. Jr, Aron, A., & Geyer, R. (2019). Do shared self-expanding activities have to be physically arousing? *Journal of Social and Personal Relationships*, *36*(9), 2781–2801. https://doi.org/10.1177/0265407518801095

Uecker, J. E. (2012). Marriage and mental health among young adults. *Marriage, Family, and Health*, *53*(1), 67–83. https://doi.org/10.1177/0022146511419206

VanderDrift, L. E., Lewandowski, G. W. Jr., & Agnew, C. R. (2011). Reduced self-expansion in current romance and interest in relationship alternatives. *Journal of Social and Personal Relationships*, *28*(3), 356–373. https://doi.org/10.1177/0265407510382321

Vilagut, G., Forero, C. G., Barbaglia, G., & Alonso, J. (2016). Screening for depression in the general population with the center for epidemiologic studies depression (CES-D): A systematic review with meta-analysis. *Plos One*, *11*(5), Article e0155431. https://doi.org/10.1371/journal.pone.0155431

Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36): Conceptual framework and item selection. *Medical Care*, *30*(6), 473–483. https://doi.org/10.1097/00005650-199206000-00002

Whisman, M. A. (2013). Relationship discord and the prevalence, incidence, and treatment of psychopathology. *Journal of Social and Personal Relationships*, *30*(2), 163–170. https://doi.org/10.1177/0265407512455269

World Health Organization. (2020, January). *Depression*. https://www.who.int/news-room/fact-sheets/detail/depression.

Xu, X. (2020). The importance of self-concept and self-expansion in understanding health and behavior change. In B. A. Mattingly, K. P. McIntyre, & G. W. Lewandowski Jr. (Eds.), *Interpersonal relationships and the self-concept* (pp. 163–176). Springer. https://doi.org/10.1007/978-3-030-43747-3_10