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Relationship Functioning Following a Large-Scale Sacrifice: Perceived Partner Prosociality Buffers Attachment Insecurity

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In a sample of 229 individuals who recently undertook a large-scale sacrifice by relocating for their romantic partner's job or schooling (i.e., accompanying partners), we tested preregistered predictions linking accompanying partners' attachment insecurities (i.e., attachment anxiety and attachment avoidance) and relationship functioning (i.e., relationship quality, relationship conflict, and move-related relationship benefits). We also examined whether any negative associations found among accompanying partners' attachment insecurities and relationship functioning could be buffered by partner prosociality in the form of perceived partner gratitude (i.e., partners' expressions of move-related and general gratitude) and perceived partner sacrifice (i.e., partners' daily sacrifice behaviors and general willingness to sacrifice). Results showed that more insecurely attached accompanying partners reported worse relationship functioning after moving than their secure counterparts. Although gratitude and sacrifice did not buffer insecurely attached individuals' relationship conflict, both perceived partner general gratitude and willingness to sacrifice partially buffered avoidantly attached individuals from experiencing lower relationship quality, while move-related gratitude helped avoidantly attached individuals to feel that the move benefitted their relationship. Meanwhile, perceived partner sacrifice behaviors buffered anxiously attached individuals from experiencing lower relationship quality. This is the first study to demonstrate, in an ecologically valid sample, the implications of a large-scale sacrifice for insecurely attached accompanying partners' relationship functioning, as well as the protective effects of perceiving a partner's prosociality following the major life transition of job relocation.

Keywords: sacrifice, job relocation, attachment, relationship functioning, gratitude


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In romantic relationships, individuals often make sacrifices (i.e., forgo their own self-interest) for their partner or relationship (Righetti et al., 2022). Meta-analytic findings on links between sacrifice and well-being demonstrate that although making a sacrifice is associated with lower personal well-being, it is not associated with relationship quality (Righetti, Sakaluk, et al., 2020). One reason for this may be that, to date, most research has focused on small-scale, daily sacrifices that may not be as difficult for partners to make (e.g., changing dinner plans; Righetti et al., 2022). Sacrifices may, however, be taxing on relationship quality when they are large-scale and highly costly to the self—such as when an individual relocates for their romantic partner's career (Righetti et al., 2022). Undertaking a


large-scale sacrifice may be particularly detrimental to relationship functioning for individuals with attachment insecurities (i.e., fears of intimacy and/or abandonment in a relationship), as these insecurities are activated during stressful situations (Simpson & Rholes, 2012) and may be similarly activated after a life-altering sacrifice. To secure greater relationship functioning after a large-scale sacrifice, insecurely attached individuals may benefit from perceiving different forms of prosociality from a partner that acknowledges their large-scale sacrifice while also protecting them from the potential negative relational consequences of their specific attachment insecurities.

In the present study, we investigated associations between attachment insecurity (i.e., attachment anxiety and avoidance) and

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This study's design and hypotheses were preregistered. The

preregistration, data, and syntax have been made available at the Open Science Framework (OSF): <https://osf.io/zdasq/>.

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relationship functioning (i.e., relationship quality, relationship conflict, and move-related relationship benefits), as well as whether perceiving a partner's prosociality (i.e., gratitude and sacrifice) could buffer any negative effects of attachment insecurity on relationship functioning after making a large-scale sacrifice. We focus on the context of partnered job relocation, as one of the most common large-scale sacrifices in romantic relationships is when an individual ("accompanying partner") moves for their partner's ("relocator") career (Farrell et al., 2016). Indeed, nearly 31 million Americans have moved for job-related reasons in the last 5 years (U.S. Census Bureau, 2019) and have continued to do so even during the global COVID-19 pandemic (Pew Research Center, 2020). Many of these relocations involve an accompanying partner (Brookfield Global Relocation Services, 2016; Canadian Employee Relocation Council, 2019). This study is the first to investigate attachment insecurities within the unique context of a large-scale sacrifice and extends a growing body of research on how partners can play a critical role in attenuating the negative consequences of attachment insecurity within romantic relationships (Simpson & Overall, 2014).

Large-Scale Sacrifices in Romantic Relationships: Partnered Job Relocation

Although a meta-analysis showed that making sacrifices was not associated with relationship well-being (Righetti, Sakaluk, et al., 2020), this could be explained by the relatively low costs or magnitude of the sacrifices under investigation. Indeed, greater perceived harmfulness, costs, or difficulty in making a sacrifice have all been negatively associated with relational well-being (Righetti, Sakaluk, et al., 2020; Ruppel & Curran, 2012; Whitton et al., 2007). However, much of the sacrifice literature has focused on small-scale (e.g., Impett et al., 2005; Ruppel & Curran, 2012), experimentally manipulated (e.g., Righetti, Schneider, et al., 2020), or hypothetical large-scale (Farrell et al., 2016) sacrifices. Actual large-scale sacrifices may be particularly costly and challenging to undertake and thus detrimental to relationship quality, but little is known about the links between large-scale sacrifices and relationship quality. One naturally occurring large-scale sacrifice is partnered job relocation. Job relocation is frequently cited as being among the most stressful life transitions that people face (Hausman & Reed, 1991; Riemer, 2000). Although much of the existing research on relocation has focused on individuals' job-related and social support strains (Sterle et al., 2018), some evidence suggests that this sacrifice may be particularly costly and difficult for accompanying partners. For example, it can negatively impact their employment opportunities (e.g., loss of a current job and difficulty finding a new one) and social lives (e.g., loss of social support; Burke & Miller, 2018; Toliver, 1993). Accompanying partners, in particular, whether they relocated for their partner's schooling or job, may also face salient psychological challenges, such as feeling a lack of purpose (Cui et al., 2017), as well as greater stress and lower personal well-being than their partner (Martin, 1996).

While research has highlighted the psychological challenges and costs that accompanying partners face during a move, there is a lack of empirical work on how relocation shapes accompanying partners' relationship functioning. This is a critical oversight because moving with a romantic partner is a relational process

that partners navigate together and many of its potential negative consequences (e.g., divorce; McNulty, 2012) are relational in nature. After making a large sacrifice for their partner by moving for their job, accompanying partners may be particularly likely to perceive this move-related sacrifice as costly to themselves and may thus experience lower relationship well-being (Righetti, Sakaluk, et al., 2020). In the present work, we focus on accompanying partners' experiences of relationship functioning (e.g., relationship quality, conflict, and move-related relationship benefits) after undertaking this life-altering sacrifice.

Attachment Theory

Attachment theory provides a useful lens for understanding accompanying partners' relationship functioning after making a large sacrifice. Attachment theory states that based on repeated interactions with their primary caregiver, an infant forms beliefs about themselves and others that are activated during times of stress (Bowlby, 1982). Importantly, these attachment orientations persist into adulthood and affect individuals' romantic relationships (Mikulincer & Shaver, 2016). Attachment orientations are typically conceptualized along two dimensions: avoidance and anxiety. Avoidantly attached adults feel discomfort with intimacy and emotional closeness, while anxiously attached adults doubt their own self-worth and fear abandonment. Collectively, avoidance and anxiety are insecure attachment orientations (in contrast to secure individuals who are low in anxiety and avoidance; Mikulincer & Shaver, 2016).

Previous literature suggests that attachment insecurity is associated with poorer relationship functioning (e.g., lower relationship satisfaction, higher relationship conflict; Brassard et al., 2009; Nofle & Shaver, 2006; Pietromonaco et al., 2004). Importantly, these negative outcomes may be especially salient during major life transitions, as attachment systems are often activated during times of stress (e.g., transition to parenthood; Simpson & Rholes, 2019). The activated attachment system induces different responses in anxious and avoidant individuals based on their respective attachment concerns: avoidantly attached individuals become hyper-focused on the potential loss of autonomy and independence in their relationship, whereas anxiously attached individuals become overly concerned with partner responsiveness and relationship loss (Simpson & Rholes, 2019). Thus, insecure individuals are theorized to experience even stronger relationship functioning detriments after major life transitions relative to their secure counterparts, driven by different attachment concerns.

Given that job relocation is a major life transition with many acute stressors, insecure accompanying partners' attachment concerns will likely be activated from their large, move-related sacrifice, leaving their relationship functioning especially at risk. One study found that avoidant individuals were less accommodating and reported lower commitment when asked to devise a plan with their partner that would require them to perform a large hypothetical sacrifice (e.g., a relocation, a major purchase; Farrell et al., 2016). Moreover, given that avoidant individuals' attachment insecurities are rooted in negative views of others, and that relational sacrifices may undermine autonomy (Horne et al., 2022), they may be especially likely to experience their relationship more negatively following a sacrifice. To our knowledge, no research has examined attachment insecurity within the context of real, large-scale

sacrifices. In research on small, daily sacrifices, however, Ruppel and Curran (2012) found that the relationship satisfaction of individuals high (vs. low) in attachment anxiety was less negatively impacted by the difficulty of their daily sacrifices. This finding may suggest that anxious individuals are not as affected by the difficulty of such sacrifices, or that they are generally more dissatisfied once a sacrifice occurs. However, it is plausible that a large-scale sacrifice—one that should trigger the attachment system quite strongly—may nevertheless exacerbate anxiously attached individuals' relationship dissatisfaction. Taken together, findings from existing sacrifice research applied to the relocation context suggest that a large sacrifice such as moving for a partner may be challenging for insecurely attached accompanying partners' relationship functioning, and perhaps especially challenging for avoidant individuals.

Buffering the Deleterious Effects of Attachment Insecurity on Relationship Functioning

The Attachment Security Enhancement Model (ASEM; Arriaga et al., 2018) states that if partners enact specific behaviors that are tailored to an individual's unique attachment insecurities; then, the insecurely attached individual may be buffered against the negative effects of those insecurities on their relationship functioning. Indeed, a growing body of empirical work demonstrates the buffering role of a partner's tailored prosociality for insecure individuals (Farrell et al., 2016; Park et al., 2019; Simpson & Overall, 2014; Stanton et al., 2017). Avoidant individuals may benefit most from partner buffering behaviors that allow them to maintain autonomy, while anxious individuals may benefit most from behaviors that remind them that they are supported and loved (Simpson & Overall, 2014). Applied to the present study, we argue that perceiving specific forms of prosociality from a partner may prevent the erosion of an insecurely attached accompanying partners' relationship functioning after making a large-scale sacrifice for their partner. Perceptions of a partner's prosociality may be even more important for insecurely attached accompanying partners, whose attachment fears often center around their partners' behaviors. Indeed, some research suggests that perceptions of a partner's prosocial acts may be more beneficial to relationship well-being than actual partner-reported behaviors (Visserman et al., 2019). Two forms of perceived partner prosociality which may be relevant in this context are partner gratitude and sacrifice behaviors.

Perceived Partner Gratitude

Gratitude is a positive emotion that arises in response to one person voluntarily providing a benefit to another person (McCullough et al., 2008) and is linked to a host of positive relationship outcomes (e.g., relationship satisfaction, commitment; Algoe et al., 2010; Park et al., 2019). In the context of relocation, a relocater's gratitude for the accompanying partners' costly move-related sacrifice may be important for both avoidant and anxious individuals, as it signals recognition and appreciation for the accompanying partners' willingness to move.

We suggest that gratitude expressions from a partner will be a particularly important buffer for avoidantly attached individuals. Across five studies, Park et al. (2019) found that partner expressions of gratitude (both self- and partner-reported) buffered avoidant individuals against lower relationship quality in daily life and

over time. Moreover, Farrell et al. (2016) found that when partners acknowledged the size and extent of a hypothetical large sacrifice from an avoidantly attached individual and were responsive to their views about making that sacrifice, avoidant individuals were buffered against lower trust and commitment—defining insecurities present in avoidant attachment. Within the context of an actual large-scale sacrifice, a partner's responsive acknowledgment of their sacrifice may counter avoidant accompanying individuals' negative perceptions of intimacy, but without impeding on their autonomy and independence. In line with the ASEM (Arriaga et al., 2018), perceiving "soft" strategies, such as gratitude, that induce positive relational experiences while respecting the avoidant individual's need for autonomy may effectively buffer them against lower relationship functioning after moving.

Anxiously attached accompanying partners may also benefit from perceiving gratitude from a partner after relocation. While Park et al. (2019) only found support for perceived partner gratitude buffering anxiously attached individuals against lower relationship quality in one of five studies, these studies focused entirely on gratitude for small acts in daily life. By contrast, it may be more important for anxious individuals to receive gratitude after making a large sacrifice and undergoing a stressful relocation for their partner's career. Studies that fail to find a buffering effect of gratitude on relationship quality for anxious individuals often suggest that this may be a result of their feeling undeserving of the gratitude or questioning the authenticity of such positive partner expressions (e.g., Mikulincer et al., 2006; Park et al., 2019). However, perceiving partner gratitude may be helpful for anxious accompanying partners after making a large-scale sacrifice, as anxiously attached individuals may view gratitude as highly warranted in this context given the costliness of their action.

Perceived Partner Sacrifice

Perceiving a partner's sacrifice behaviors in daily life may also benefit accompanying partners' relationship functioning after a move. While romantic relationships often follow communal norms (i.e., partners provide unconditional, responsive care; Clark & Mills, 2012), after sacrificing, partners may be more likely to follow exchange norms (i.e., partners provide care and expect reciprocation; Bartz & Lydon, 2008). Even after making a small sacrifice for a partner, people generally expect their partner to sacrifice for them in return (Righetti, Schneider, et al., 2020). After making a large-scale sacrifice by moving for a partner's job, expectations for reciprocation might be especially heightened and fulfilled by perceiving daily sacrifices from a partner, thereby buffering relationship functioning.

Insecurely attached accompanying partners may be particularly likely to benefit from receiving sacrifices from a partner. When considering avoidantly attached individuals, one study found that their relationship satisfaction was not impacted by the number of daily sacrifices their partner performed (Ruppel & Curran, 2012). Avoidant accompanying partners, however, have undergone a large-scale sacrifice for their partner, and given the size of this sacrifice, may be on the lookout for reciprocation. Furthermore, avoidant individuals tend to perceive partner behaviors more positively when receiving instrumental rather than emotional forms of support (Girme et al., 2015; Simpson et al., 2007), particularly in times of stress (Mikulincer & Florian, 1997). As such, avoidant

accompanying partners may view concrete daily sacrifices from a partner as a helpful exchange for their large, move-related sacrifice.

Perceiving sacrifices from a partner might also be important for anxiously attached accompanying partners. Anxious individuals worry about their partner's regard for them and often seek reassurance—concerns that may be exacerbated after making a large-scale sacrifice. Specifically, when anxious individuals experience high stress (e.g., from a major life transition), they seek immediate help and support from their partner (Simpson & Rholes, 2019). Having undergone a stressful relocation in which a sacrifice was required, anxious accompanying partners may feel unstable in their relationship. As a result, they might seek clear reassurance from their partner in tangible and concrete ways—such as daily sacrifices—particularly because sacrifice may signal a partner's commitment to the recipient and the relationship (Righetti & Impett, 2017). In line with the ASEM, “safe” strategies that demonstrate care, regard, and commitment from a partner—especially if they are conveyed through a partner incurring or being willing to incur costs (e.g., through sacrificing)—may be especially strong buffers for anxious individuals (Arriaga et al., 2018). Thus, anxious individuals may desire and expect sacrifice behaviors from a partner after moving for them and perceiving such behaviors may signal a partner's equal investment in the relationship and protect their relationship functioning.

The Present Study

Our first research aim was to investigate associations between insecure attachment (i.e., anxiety and avoidance) and relationship functioning in a sample of individuals who had recently relocated for their romantic partner's career. Relationship functioning was operationalized with global relationship quality, relationship conflict (which may be particularly common in this context given the high levels of stress that tend to accompany relocations; Anderzén & Arnetz, 1999), and move-related relationship benefits¹. Our second aim was to test whether any negative associations found between attachment insecurity and relationship functioning can be buffered by perceived partner prosociality (i.e., gratitude and sacrifice). Given that move-related gratitude is tailored to the insecure accompanying partners' relocation role, we predicted that accompanying partners relatively high in attachment avoidance or anxiety who perceived higher move-related gratitude from their partner would report higher relationship functioning. More general perceptions of a partner's gratitude may also be protective for attachment insecurity, as it may signal an environment of care and responsiveness in a relationship, which could lower insecure individuals' negative views of intimacy or fears of rejection (Mikulincer & Shaver, 2016). To investigate whether the benefits of partner gratitude during relocation are hinged on it being tailored to the move or if gratitude more generally is a sufficient buffer, we examined whether perceived partner general gratitude buffers insecure accompanying partners against poorer relationship functioning.

Perceiving a partner's daily sacrifice behaviors should also be important during relocation because these concrete, self-effacing behaviors compensate for the sacrifice that accompanying partners undertook by moving. We predicted that accompanying partners high in attachment avoidance or anxiety who perceived more sacrifices from a partner would report greater relationship functioning. However, it is also possible that a partner's mere willingness to

sacrifice would buffer against the negative effects of insecure attachment, as a recent meta-analysis found that willingness to sacrifice—but not behavioral sacrifice—was positively associated with a partner's relationship well-being (Righetti, Sakaluk, et al., 2020). As such, we examined whether perceiving a partner's willingness to sacrifice would have similar protective effects for insecurely attached accompanying partners' relationship functioning.

Finally, we tested whether effects depend on time since the move or differ by gender or relationship length, as these variables may play a role in the association between attachment insecurity and relationship functioning (e.g., Kirkpatrick & Davis, 1994). We preregistered our predictions and analysis plan on the Open-Science Framework (OSF) before analyzing (but after collecting) the data, where we also share our measures, data, and syntax (<https://osf.io/zdasq/>).

Method

Procedure

We recruited accompanying partners from Prolific Academic, an online research platform that yields diverse samples and high-quality data (Peer et al., 2017). To qualify for the study, participants had to speak English, be over 18 years old, be in a romantic relationship, and have relocated with their romantic partner to a new city or country within the past year. Participants completed a 45-min survey with questions about themselves, their relationship, and their move. At the end of the survey, participants were debriefed and compensated \$10.00 CAD. The study was approved by the Research Ethics Board at the University of Toronto. Below, we report how we determined our sample size, as well as all data exclusions, manipulations, and measures.

Participants

We aimed to recruit a minimum sample of 200 individuals based on previous studies in our lab on attachment and romantic relationships, to account for challenges of recruiting this unique sample, and to account for incomplete survey responses and failed attention checks. We surpassed this goal with 267 individuals completing the survey, but 38 participants were removed prior to analysis; seven participants did not meet the eligibility criteria, four participants failed two attention checks, 20 participants had duplicate IP addresses, four participants did not complete the survey, one participant admitted responding dishonestly, one participant did not complete the attachment assessment, and one participant was under strong suspicion of automatic responding. A sensitivity analysis²

¹ We preregistered predictions for global relationship quality and relationship conflict after data collection but before data analysis. We incorporated move-related relationship benefits as an additional dependent variable through the review process and, as such, did not preregister predictions for this variable. Nevertheless, our theoretical reasoning for how perceived partner prosociality would shape associations between attachment insecurity and move-related relationship benefits is akin to the reasoning for relationship quality and conflict.

² To determine the minimum effect size that we could detect given our sample size, we ran a sensitivity analysis in G*Power Version 3.1. We used the linear multiple regression statistical test (test family: *t* test) with the following input parameters: one-tail test, .05 α level, 80% power, sample size of 229, and five predictors.

revealed that we could detect a small effect (i.e., $f^2 = .027$ for moderation and simple slope analyses) with our sample size of 229 participants.

The final sample consisted of 155 women, 72 men, two nonbinary people, with an average age of 32 years (range = 20–69; $SD = 7.54$) and relationship length of 8.36 years (range = 1–29). Most participants (52%) had no children living at home, 20.5% had one, 16.6% had two, and 10.9% had three or more. Most participants (88.2%) were heterosexual, 8.3% bisexual, 1.3% gay, 0.9% lesbian, 0.8% asexual, and 0.4% queer. Most participants were married (96.1%), while 1.7% were dating, 1.2% were engaged, and 0.8% were common law. Participants were primarily from North America (49.6%) and Europe (46.5%). Many identified their ethnicity as White (73.8%), 9.6% as bi- or multiethnic, 5.6% as South Asian, 4.8% as Latin American, 2.6% as East Asian, 2.2% as Black, and 1.4% selected “other.”

With respect to employment status, 42.7% participants worked full-time, 17.4% worked part-time, 14.8% were unemployed, 19.4% were not working nor looking for work (including stay-at-home parents, those on maternity/paternity leave), 3.4% were in school full-time, 0.9% were in school part-time, and one person was retired.³ Participants’ average time since relocating was 9.63 months (range = 1 to 12; $SD = 2.37$), with nearly half of the participants (47.2%) having relocated within the past four to 6 months. Most participants had relocated with their partner at least once before ($M = 2.74$; $SD = 2.38$; range = 0–14 times). Participants moved an average of 2,060 km (range = 4.79–15,335.82; $SD = 3,110.81$), with 35.1% moving to a new city, 45.7% moving to a new state or province, and 19.2% moving to a new country.⁴

Measures

Unless otherwise noted, all measures were assessed on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*), and composites were created by taking the mean of the items. Means and standard deviations of all measures are found in Table 1.

Attachment Orientation

Attachment orientation was measured with the Experiences in Close Relationships-Revised (ECR-R) Questionnaire-Short Form (Wei et al., 2007). Attachment avoidance was measured with six items (e.g., “I try to avoid getting too close to my partner”; $\alpha = .80$), and attachment anxiety was measured with six items (e.g., “I need a lot of reassurance that I am loved by my partner”; $\alpha = .73$). Scores were normally distributed (see Supplement), although mean levels of attachment avoidance were generally quite low.

Perceived Partner Prosociality

Perceived partner move-related gratitude was assessed with three items (e.g., “I think my partner feels grateful/thankful/appreciative to me for making this move with them”; $\alpha = .83$). *Perceived partner general gratitude* was assessed with two items: “Generally speaking . . . my partner feels very appreciative of me,” “. . . my partner makes sure I feel appreciated” (Gordon et al., 2012, $r = .74$). *Perceived partner sacrifice behavior* was assessed by asking participants how often their partner engaged in eight types of sacrifices in the past month (1 = *very infrequently* to 7 = *very frequently*), such as

sacrifices related to “you or your relationship,” “errands and household chores (e.g., doing the dishes when it wasn’t their “turn”)” (Impett et al., 2005; $\alpha = .85$). *Perceived partner willingness to sacrifice* was assessed by presenting participants with a definition of a sacrifice (“A “sacrifice” is when you forgo your own preferences, goals, or desires for your partner or your relationship”) and asking them to respond to the following item: “I think my partner feels very willing to sacrifice in our relationship.”

Relationship Functioning

Relationship quality was measured with the six most face-valid items (e.g., “How satisfied are you with your relationship?”) from each of the six subscales (i.e., satisfaction, commitment, intimacy, trust, passion, and love) in the Perceived Relationship Quality Component Inventory (PRQC; Fletcher et al., 2000; $\alpha = .89$). *Relationship conflict* was measured with the five-item conflict scale (Braiker & Kelley, 1979). Two items were on a scale from 1 = *not very often* to 7 = *very often*: “How often . . . do you and your partner argue with each other?” and “. . . do you feel angry or resentful towards your partner?” Two items were on a scale from 1 = *not at all* to 7 = *very much so*: “To what extent . . . do you try to change things about your partner that bother you (e.g., behaviors, attitudes, etc.)?” and “. . . do you communicate negative feelings toward your partner (e.g., anger, dissatisfaction, frustration, etc.)?” One item was on a scale from 1 = *not serious at all* to 7 = *very serious*: “When you and your partner argue, how serious are the problems or arguments?” Together, these items assessed relationship conflict ($\alpha = .77$). *Relationship benefits from move* were measured with one face-valid item: “I feel like this move has been very beneficial for our relationship.”

Generalizability Measures

Covariate: Time since the move was measured by the number of months since participants relocated. *Demographic moderators: Relationship length* was measured in years and months and combined to create a relationship length in years composite, and *gender* was coded as 0 = women and 1 = men.

Data Analytic Approach

We utilized a step-wise procedure⁵ to test the main effects of attachment insecurity and relationship functioning. To examine

³ Most participants in paid labor or on parental leave also reported their work industry. We categorized participants’ occupations according to the Statistics Canada National Occupational Classification (NOC) 2016 Version 1.3 (Statistics Canada, 2016). The two most common industries included health-related occupations: education, law and social, community, and/or government services. See Supplement, for details.

⁴ The questions about participants’ pre- and postmove cities were added to the survey shortly after launching the study due to a survey error. As such, only 153 of the 229 trailing partners reported their pre- and postmove cities (and thus the distance relocated variable could only be computed for those participants). With this caveat in mind, we include the correlations among distance relocated and the focal study variables for interested readers in Table 1.

⁵ While we proposed a simultaneous entry procedure in our preregistration, as per reviewer suggestions, we instead ran step-wise procedures so that readers could easily distinguish the main effects from the full interaction models.

Table 1
Means, Standard Deviations, and Correlations Among Study Variables

Variable	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12
1. Avoidance	2.24 (1.08)	—											
2. Anxiety	3.42 (1.25)	.53***	—										
3. PP sacrifice behav.	3.68 (1.28)	-.22***	-.14*	—									
4. PP move gratitude	5.47 (1.50)	-.47***	-.43***	.27***	—								
5. PP gen. gratitude	5.35 (1.54)	-.58***	-.50***	.45***	.67***	—							
6. PP Will. to sacrifice	5.15 (1.74)	-.35***	-.28***	.43***	.53***	.59***	—						
7. Rel. quality	5.98 (1.02)	-.68***	-.50***	.35***	.55***	.68***	.53***	—					
8. Rel. conflict	3.28 (1.18)	.45***	.51***	-.17*	-.35***	-.41***	-.27***	-.44***	—				
9. Move rel. benefits	5.36 (1.44)	-.33***	-.24***	.31***	.39***	.41***	.32***	.39***	-.23***	—			
10. Time since move	4.81 (1.85)	-.02	-.13	.15*	.07	.09	.01	.05	-.11	0.03	—		
11. Gender	—	-.03	-.13*	.25***	.09	.14*	.12	.11	-.19**	0.10	-.02	—	
12. Rel. length	8.36 years (4.76)	.13*	.08	-.14*	-.12	-.15*	-.14*	-.11	-.02	-.18**	.06	-.05	—
13. Distance relocated	2,060.25 km (3,110.81)	.02	.11	.16*	.17*	.07	.03	.07	.12	.13	.09	-.02	-.10

Note. PP = perceived partner; Behav. = behavior; Gen. = general; Will. = willingness; Rel. = relationship; Move Rel. Benefits = move-related relationship benefits. Gender was coded as 0 = women,

1 = men.

* $p < .05$. ** $p < .01$. *** $p < .001$.

whether these effects were moderated by perceived partner gratitude and sacrifice, we conducted multiple linear regression analyses by then entering interactions into the model, with separate models for each moderator on each outcome variable (i.e., 12 models total). Independent variables and moderators were all grand mean-centered.

Results

Zero-order correlations are shown in Table 1. In line with our predictions, both forms of attachment insecurity were associated with lower relationship quality (anxiety: $b = -0.17$, $SE = 0.05$, $p < .001$; avoidance: $b = -0.54$, $SE = 0.05$, $p < .001$) and higher relationship conflict (anxiety: $b = 0.36$, $SE = 0.06$, $p < .001$; avoidance: $b = 0.27$, $SE = 0.07$, $p < .001$). Attachment avoidance was associated with lower perceptions of move-related relationship benefits ($b = -0.38$, $SE = 0.10$, $p < .001$), but attachment anxiety was not ($b = -0.11$, $SE = 0.09$, $p = .218$).

Perceived Partner Move-Related Gratitude and General Gratitude

To test whether perceived partner move-related gratitude and general gratitude could attenuate (i.e., buffer) the negative effects of attachment insecurity on relationship quality, conflict, and move-related relationship benefits, we ran six regression models (Table 2). Perceived partner move-related gratitude buffered the association between attachment avoidance and move-related relationship benefits. At low levels of perceived partner move-related gratitude, attachment avoidance was negatively associated with move-related relationship benefits ($b = -0.40$, $SE = 0.12$, $p < .001$, $f^2 = 0.04$), but at high levels of perceived partner move-related gratitude, this link was not significant ($b = -0.07$, $SE = .14$, $p = .637$, $f^2 < .001$; Figure 1a). We did not examine this same interaction for attachment anxiety because the main effect of anxiety on move-related relationship benefits was nonsignificant. Interactions between attachment insecurity and move-related gratitude did not predict relationship quality.

While there were no significant interactions between attachment anxiety and perceived partner general gratitude predicting relationship quality nor between attachment avoidance and perceived partner general gratitude predicting move-related relationship benefits, perceived partner general gratitude moderated the link between attachment avoidance and relationship quality. At low levels of general gratitude, attachment avoidance was negatively associated with relationship quality ($b = -0.46$, $SE = 0.06$, $p < .001$, $f^2 = 0.12$), but at high levels of general gratitude, this negative association was significantly weaker ($b = -0.24$, $SE = 0.07$, $p = .002$, $f^2 = 0.02$; Figure 1b). There were no significant interactions between attachment insecurity and either form of partner gratitude predicting relationship conflict.

Perceived Partner Sacrifice Behaviors and Willingness to Sacrifice

Following the same analytic procedure above (i.e., six regression models; Table 2), for sacrifice behaviors, we found that perceived partner sacrifice behaviors moderated the association between attachment anxiety and relationship quality. At low levels of

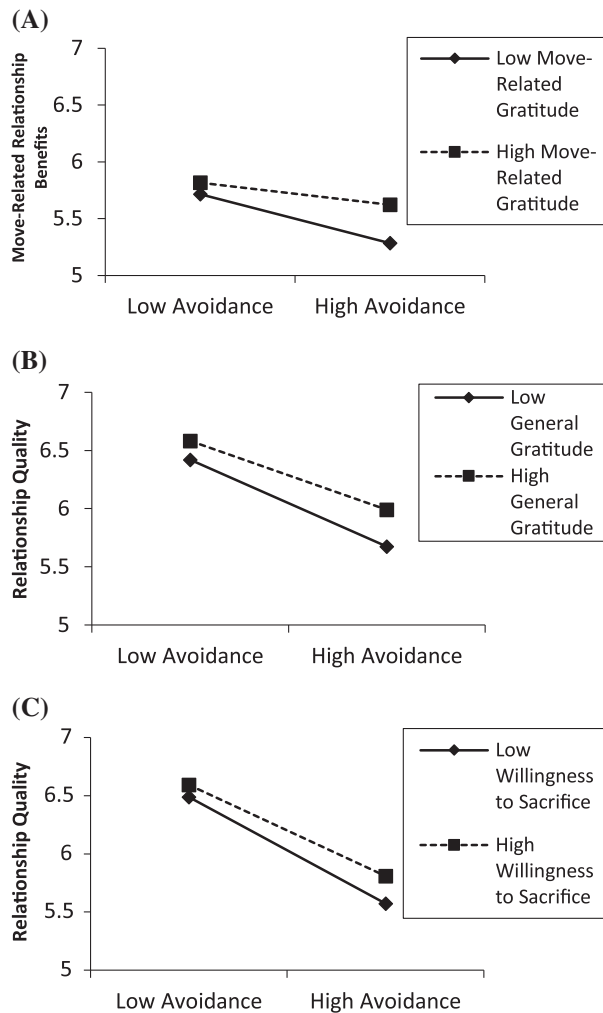
Table 2
Multiple Linear Regression Analyses of the Interaction Between Attachment Insecurity and Perceived Partner Prosociality in Predicting Relationship Quality, Relationship Conflict, and Move-Related Relationship Benefits

Model	Relationship quality				Relationship conflict				Move-related relationship benefits						
	b (SE)	t	p	95% CI	f^2	b (SE)	t	p	95% CI	f^2	b (SE)	t	p	95% CI	f^2
Model 1: Move-related gratitude															
PP move-related gratitude	.16 (.04)	4.14	<.001	[.08, .23]	.04	-.04 (.05)	-0.74	.462	[-.14, .07]	<.01	.22 (.07)	3.07	.002	[.08, .35]	0.03
Anxiety	-.11 (.05)	-2.52	.012	[-.20, -.03]	.01	.33 (.06)	5.13	<.001	[.20, .45]	.10	-.02 (.08)	-0.22	.830	[-.18, .15]	< 0.01
Avoidance	-.45 (.05)	-8.31	<.001	[-.55, -.34]	.16	.24 (.08)	3.22	.001	[.09, .39]	.03	-.23 (.10)	-2.34	.020	[-.43, -.04]	0.02
Anx. × PP MR gratitude	.02 (.03)	0.59	.553	[-.04, .07]	<.01	-.06 (.04)	-1.68	.095	[-.14, .01]	.01	.07 (.05)	1.47	.144	[-.03, .17]	< 0.01
Avoid. × PP MR gratitude	.05 (.03)	1.74	.084	[-.01, .11]	.01	-.02 (.04)	-0.61	.546	[-.10, .06]	<.01	.11 (.05)	2.08	.039	[.01, .22]	0.02
Model 2: Sacrifice behaviors															
PP sacrifice behaviors	.17 (.04)	4.66	<.001	[.10, .24]	.05	-.06 (.05)	-1.05	.297	[-.16, .05]	<.01	.28 (.07)	4.00	<.001	[.14, .42]	0.06
Anxiety	-.15 (.04)	-3.31	.001	[-.23, -.06]	.02	.35 (.06)	5.47	<.001	[.22, .47]	.10	-.07 (.08)	-0.79	.435	[-.23, .10]	< 0.01
Avoidance	-.49 (.05)	-9.50	<.001	[-.60, -.39]	.22	.27 (.07)	3.63	<.001	[.12, .42]	.04	-.34 (.10)	-3.41	<.001	[-.53, -.14]	0.04
Anx. × PP sacrifice behaviors	.08 (.04)	2.22	.028	[.01, .15]	.01	-.04 (.05)	-0.84	.403	[-.15, .06]	<.01	.11 (.07)	1.58	.116	[-.03, .24]	0.01
Avoid. × PP sacrifice behaviors	.03 (.04)	0.80	.425	[-.05, .11]	<.01	.04 (.06)	0.64	.525	[-.07, .14]	<.01	-.09 (.07)	-1.19	.235	[-.23, .06]	0.01
Model 3: General gratitude															
PP gen. Gratitude	.24 (.04)	6.33	<.001	[.16, .31]	.10	-.07 (.06)	-1.20	.231	[-.18, .04]	<.01	.23 (.08)	3.03	.003	[.08, .38]	0.03
Anxiety	-.10 (.04)	-2.21	.028	[-.18, -.01]	.01	.33 (.07)	5.08	<.001	[.20, .46]	.10	-.01 (.09)	-0.11	.910	[-.18, .16]	< 0.01
Avoidance	-.35 (.05)	-6.47	<.001	[-.45, -.24]	.10	.21 (.08)	2.56	.011	[.05, .37]	.02	-.19 (.11)	-1.80	.073	[-.40, .02]	0.01
Anx. × PP gen. gratitude	.00 (.03)	0.10	.920	[-.05, .06]	<.01	-.03 (.04)	-0.75	.455	[-.11, .05]	<.01	.10 (.05)	1.79	.075	[-.01, .20]	0.01
Avoid. × PP gen. gratitude	.07 (.03)	2.68	.008	[.02, .12]	.01	-.03 (.04)	-0.82	.416	[-.11, .05]	<.01	.07 (.05)	1.26	.208	[-.04, .17]	0.01
Model 4: Willingness to sacrifice															
PP Will. to sacrifice	.17 (.03)	6.45	<.001	[.12, .22]	.08	-.05 (.04)	-1.21	.229	[-.13, .03]	.01	.18 (.06)	3.36	<.001	[.08, .29]	0.04
Anxiety	-.14 (.04)	-3.40	<.001	[-.22, -.06]	.02	.36 (.06)	5.76	<.001	[.24, .49]	.11	-.07 (.09)	-0.78	.435	[-.23, .10]	< 0.01
Avoidance	-.42 (.05)	-8.63	<.001	[-.52, -.33]	.15	.22 (.08)	2.93	.004	[.07, .37]	.03	-.28 (.10)	-2.77	.006	[-.48, -.08]	0.03
Anx. × PP Will. to sacrifice	.04 (.02)	1.69	.093	[-.01, .09]	<.01	.02 (.04)	0.59	.553	[-.05, .09]	<.01	.06 (.05)	1.18	.239	[-.04, .16]	0.01
Avoid. × PP Will. to sacrifice	.06 (.02)	2.49	.014	[.01, .11]	.01	-.05 (.04)	-1.32	.190	[-.12, .02]	.01	.02 (.05)	0.33	.741	[-.08, .12]	< 0.01

Note. N = 229. CI = confidence interval; PP = perceived partner; Anx. = anxiety; Avoid. = avoidance; MR = move-related; Gen. = general; Will. = willingness.

Figure 1

Perceived Partner Prosociality Moderating the Association Among Attachment Avoidance and Move-Related Relationship Benefits and Relationship Quality



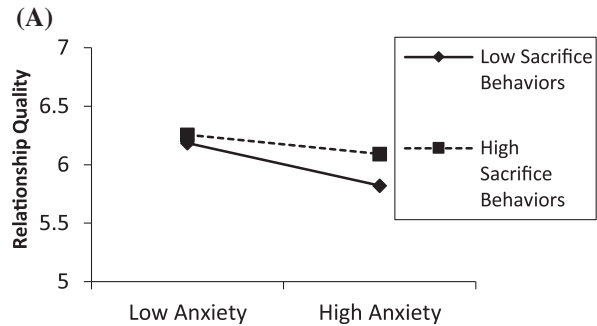
Note. High and low values represent 1 *SD* above and below the mean. Panel A: moderation by perceived partner move-related gratitude. Panel B: moderation by perceived partner general gratitude. Panel C: moderation by perceived partner willingness to sacrifice.

sacrifice behaviors, attachment anxiety was negatively associated with relationship quality ($b = -0.25, SE = 0.06, p < .001, f^2 = 0.04$), but at high levels of sacrifice behaviors, the link was no longer significant ($b = -0.04, SE = 0.07, p = .534, f^2 < 0.01$; Figure 2a). Counter to predictions, there were no significant interactions between attachment anxiety and perceived partner sacrifice behaviors predicting relationship conflict, nor between attachment avoidance and perceived partner sacrifice behaviors predicting relationship functioning.

Perceived partner willingness to sacrifice moderated the link between attachment avoidance and relationship quality. As illustrated in Figure 1c, at low levels of willingness to sacrifice, avoidance was negatively associated with relationship quality ($b = -0.53, SE = 0.06, p < .001, f^2 = 0.18$), but at high levels

Figure 2

Perceived Partner Prosociality Moderating the Association Between Attachment Anxiety and Relationship Quality



Note. High and low values represent 1 *SD* above and below the mean. Panel A: moderation by perceived partner sacrifice behaviors.

of willingness to sacrifice, this negative association was attenuated ($b = -0.32, SE = 0.07, p < .001, f^2 = 0.04$). Contrary to our predictions, perceived partner willingness to sacrifice was not a significant buffer against lower relationship quality among anxiously attached accompanying partners. Lastly, there were no significant interactions among accompanying partners' attachment insecurity and perceived partner willingness to sacrifice in predicting move-related relationship benefits or relationship conflict.

Ruling Out Alternative Hypotheses and Providing Evidence for Generalizability of Effects

Accompanying partners ranged in their time since relocating from less than 1 month ago to up to 1 year ago. To rule out the possibility that the buffering effects of gratitude and sacrifice would be more salient for those who have moved more recently—and who may be experiencing higher stress and uncertainty—we controlled for time since the move in all of our models; all significant effects held. All observed buffering effects of perceived partner gratitude and sacrifice also generalized across gender and relationship length.⁶

Discussion

In a sample of individuals who undertook a large-scale sacrifice by relocating for their partner's job, we examined associations between attachment insecurity and relationship functioning and, crucially, whether perceived partner gratitude and sacrifice could buffer insecure accompanying partners against lower relationship functioning. In line with our predictions and previous research outside of the relocation context (Brassard et al., 2009; Nofle & Shaver, 2006; Pietromonaco et al., 2004), individuals higher in

⁶ As outlined in our preregistration, we also tested whether these buffers could attenuate the effect of attachment insecurity on personal well-being (i.e., life satisfaction and move-related satisfaction). Results indicated that perceived partner prosociality did not attenuate negative associations between attachment insecurity and personal well-being. However, in a set of (not preregistered) moderated mediation models, we found that for all significant interactions predicting relationship quality and move-related relationship benefits, these went on to predict insecurely attached partners' life satisfaction and move-related satisfaction. See Supplement, for further details.

attachment avoidance or anxiety reported lower relationship quality and higher relationship conflict after moving for a partner's career than more securely attached individuals. Individuals higher in attachment avoidance were less likely to report the move as beneficial to their relationship. While there were no buffering effects for relationship conflict, perceiving general gratitude from a partner buffered more avoidantly attached individuals against lower relationship quality, while move-related gratitude aided more avoidantly attached individuals in feeling that the move had benefited their relationship. Perceived partner willing to sacrifice—but not sacrifice behaviors—also buffered more avoidant individuals against lower relationship quality. Gratitude did not buffer more anxiously attached individuals; however, perceived partner sacrifice behaviors buffered more anxious individuals against lower relationship quality. These effects held when controlling for time since the move and were generalizable across relationship length and gender.

Among more avoidant accompanying partners, those who believed that their partner was generally grateful to them reported higher relationship quality after the move, and those who perceived move-specific gratitude felt that the move benefited the relationship. Our findings replicate research on perceived partner gratitude protecting avoidant individuals against lower relationship well-being (Park et al., 2019) and suggest that the benefits of gratitude generalize to avoidant individuals who made a large-scale sacrifice for their partner. Future research could consider how the content of the gratitude an individual expresses (e.g., Park et al., 2020) may be more or less effective at buffering avoidantly attached individuals against specific relational outcomes.

We also found that more avoidantly attached accompanying partners were protected against lower relationship quality when they perceived that their partner was willing to sacrifice, but not when their partner actually sacrificed for them. Prior research has shown that avoidantly attached individuals often undervalue the support they receive (Collins & Feeney, 2004) and see their partner's intentions less benevolently, thereby underestimating the amount of care their partner provides (Simpson & Rholes, 2019). This, coupled with avoidant individuals' high need for autonomy and discomfort with closeness, may lead them to view concrete sacrifice behaviors from a partner as infringing on their independence. Avoidant individuals may prefer invisible support (i.e., without the provider drawing attention to their support) that does not infringe on their autonomy, undermine their competence, or make them feel indebted (Girme et al., 2019)—examples of “soft” strategies according to the ASEM (Arriaga et al., 2018). Simply knowing that their partner would be willing to sacrifice after a move may be sufficient support for avoidant accompanying partners and may side-step feelings of indebtedness or pressures to reciprocate that may arise from actually receiving a sacrifice. This highlights the importance of distinguishing between prosocial motivation and behaviors for relationship functioning, a point underscored by a recent meta-analysis that found positive associations between willingness to—but not actual—sacrifice and relationship well-being (Righetti, Sakaluk, et al., 2020).

Conversely, we found that accompanying partners who were more anxiously attached reported higher relationship quality when they perceived more daily sacrifices from their partner after moving, adding a novel buffer to the attachment literature for those higher in attachment anxiety. Individuals who are more anxiously attached

may be on the lookout for and benefit the most from partner responses that reciprocate their large, move-related sacrifice. Anxiously primed individuals, though willing to sacrifice for a partner, are more vigilant about receiving reciprocation, and feel that a partner's failure to reciprocate would indicate something negative about the nature of the relationship (Bartz & Lydon, 2008). Furthermore, after having sacrificed, individuals often expect their partner to sacrifice in return (Righetti, Schneider, et al., 2020). Perceiving that a partner gives up their self-interest after the move may be viewed as reciprocation by more anxiously attached accompanying partners and reassure them that their partner is equally invested in the relationship. It is important to note, however, that the move was not explicitly referenced in the measure of perceived partner sacrifice behaviors. This may suggest that sacrifice behaviors more generally—and not just specifically after making a large sacrifice—may be helpful for more anxiously attached individuals, though future research is needed to replicate this finding in other contexts. In contrast, we did not find buffering effects of perceived partner gratitude for more anxiously attached individuals. It could be that perceiving gratitude induces mixed feelings in individuals who are more anxiously attached (e.g., feeling valued, but also feeling undeserving, or unable to reciprocate appreciation; Mikulincer et al., 2006; Park et al., 2019), even within contexts in which receiving gratitude may seem more justifiable such as moving for a partner's job. Alternatively, more anxiously attached individuals may indeed benefit from receiving gratitude, but simply not more than their more securely attached counterparts. Overall, perceiving sacrifices—rather than gratitude—from a partner may be more protective for anxious accompanying partners' relationship functioning after moving.

Finally, neither perceived partner gratitude nor sacrifice buffered more insecurely attached accompanying partners against relationship conflict after moving. While perceiving gratitude and sacrifice from their partner may address some of insecure individuals' relationship needs, the stress of relocation may still leave these individuals more prone to conflict. Alternatively, given that part of our measure of relationship conflict focused on frequency rather than conflict experience or negativity—and increased conflict frequency is likely a natural part of relocation (e.g., deciding where to live or send children to school)—we may not have been able to capture the protective effects of gratitude or sacrifice on negative conflict experiences. For example, a partner's willingness to sacrifice may buffer anxious individuals' feelings of how distressing relational conflict is for them, even if it may not have much impact on conflict frequency. Focusing more on conflict experiences in future research may be key given that anxiously attached individuals are more likely to experience negative emotions and avoidantly attached individuals are more likely to downplay conflict (Mikulincer & Shaver, 2016).

Limitations, Future Directions, and Implications

Our study also has limitations. First, given the low mean level and variance of attachment avoidance in our sample, it is plausible that individuals higher (vs. lower) in avoidance may have been less likely to have relocated for their partner. Although the levels of avoidance in our sample do parallel findings in other community samples in the attachment literature (e.g., Park et al., 2019), it is unclear whether our results would extend to individuals who are

more avoidantly attached than those found in our sample. Second, we only examined one individual in the relationship, thus limiting our investigation to accompanying partners' perceptions of the relocators' behaviors rather than the relocators' reports of their own behaviors. Past work has found that people miss many prosocial acts from their partners, which can strain the relationship (Visserman et al., 2019), but perceived partner expressions such as gratitude may create an upward spiral, or positive feedback loop, of relationship well-being experienced by both partners (Algoe et al., 2010). This study also included people who had very recently moved for their partner's career and those who were up to 1-year postmove. Although results remained the same after controlling for time since the move, it is unclear whether reports of perceived partner prosociality suffered from retrospective biases (e.g., buffering effects may have been short-lived). Future work could examine the buffering effects of perceived gratitude and sacrifice on both partners' relationship functioning before, during, and after relocation.

Although the effect sizes in our study were small, even small benefits conferred by partner prosociality can be important during the stressful life transition of relocation and may have several downstream benefits on personal well-being (as outlined in our Supplemental Materials; see Footnote 6). Our findings have theoretical implications for attachment insecurity buffering research by providing evidence for psychological processes proposed by the ASEM (Arriaga et al., 2018) during a major life transition. Perceiving certain types of partner prosociality that correspond to unique attachment insecurities—ones that may be further exacerbated after a relocation—may provide insecurely attached individuals with counterexamples that challenge the root of their insecurity. Specifically, “soft” behaviors such as gratitude or willingness to sacrifice from a partner reassure avoidantly attached individuals without undermining autonomy, violating their negative view of others, while “safe” behaviors such as actual sacrifices reassure anxiously attached individuals of a partner's investment more concretely, violating their negative view of self. These behaviors should disrupt if or how strongly that insecurity detracts from relationship functioning. Our findings also have practical implications for couples with one or more insecure partners navigating a major life transition. For example, to assure a more anxiously attached accompanying partner, relocators could focus their support on concrete actions that show their commitment. To respect more avoidantly attached accompanying partner's need for autonomy, relocators may show their gratitude to them without emphasizing the potential ways in which their partner gave up some independence.

Conclusion

In a sample of individuals who recently performed a large-scale sacrifice by relocating for a partner's career, we examined the roles of perceived partner gratitude and sacrifice in buffering more insecurely attached individuals against lower relationship functioning. Our results suggest that while insecurely attached accompanying partners have poorer relationship outcomes, even within the context of a large-scale sacrifice, more avoidantly attached individuals benefit most from perceiving acts of partner prosociality that allow them to maintain their independence and autonomy, while more anxiously attached individuals benefit from perceiving concrete partner behaviors that provide proof of their partner's

commitment. Ultimately, looking out for a partner's prosociality after making a life-altering sacrifice by moving to accommodate their career may protect insecurely attached individuals' relationship functioning.

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