

Preprint version – do not circulate without permission – recommend looking up published version

Arriaga, X. B., Eller, J., Kumashiro, M., Rholes, W. S., & Simpson, J. A. (published online, 10 July 2020). Self-efficacy and declines over time in attachment anxiety. *Social Psychological and Personality Science*. <https://doi.org/10.1177/1948550620933411>

Self-efficacy and Declines Over Time in Attachment Anxiety
During the Transition to Parenthood

Ximena B. Arriaga
Purdue University, West Lafayette Campus, IN USA

Jami Eller
University of Minnesota, Twin Cities Campus, MN USA

Madoka Kumashiro
Goldsmiths, University of London

W. Steven Rholes
Texas A&M University, College Station, TX USA

Jeffry A. Simpson
University of Minnesota, Twin Cities Campus, MN USA

Biography: Ximena Arriaga is a Professor of Psychological Sciences at Purdue University. Jami Eller is an advanced graduate student in Psychology at the University of Minnesota. Madoka Kumashiro is a Senior Lecturer at Goldsmiths, University of London. Steve Rholes is a Professor of Psychological and Brain Sciences at Texas A&M University. Jeff Simpson is the Department Chair and Distinguished Professor of Psychology at University of Minnesota. All authors study relationships (e.g., attachment processes, interdependence) and related topics.

Author acknowledgments: The data set was obtained with funding to Jeff Simpson and Steve Rholes from the National Institute of Mental Health (No. R01MH49599). The ideas were developed with funding to Ximena Arriaga and Madoka Kumashiro from the National Science Foundation (No. 1531226) and the Economic and Social Research Council (No. ES/N013182/1). Correspondence concerning this article can be sent to Ximena Arriaga, Department of Psychological Sciences, Purdue University, 703 Third Street, West Lafayette, IN 47907, USA, arriaga@purdue.edu.

Abstract

Attachment anxiety can decline in relationships, but little is known about how or why. A new framework – the Attachment Security Enhancement Model (ASEM) – suggests that what allays current (momentary) insecurity may not necessarily reduce attachment anxiety across time. This paper differentiates momentary versus extended attachment processes by examining concurrent versus longitudinal associations. Cohabiting partners (N=137 couples) were examined over a two-year period as they became first-time parents, a transition that could change attachment tendencies. Consistent with ASEM predictions: (1) Anxiously-attached spouses who perceived more proximal and sensitive reassurance from their partners felt less concurrent attachment anxiety, but not less anxiety across time; and (2) attachment anxiety declined across time when spouses derived personal competence and self-efficacy from their new parenting role. These results document an important distinction between mitigating insecure thoughts and feelings that might reinforce attachment anxiety versus encountering new experiences that may actually revise chronic insecurity.

Key words: Adult Attachment Security; Relationship Quality; Transition to Parenthood

Self-efficacy and Declines Over Time in Attachment Anxiety

During the Transition to Parenthood

The transition to parenthood is a critical period of life capable of inducing profound changes in close relationships (Bowlby, 1988). Caring for a new child introduces new challenges and opportunities for personal growth (Sawyer, Ayers, Young, Bradley, & Smith, 2012), but also can strain relationships (Belsky & Rovine, 1990; Cowan & Cowan, 2000). This may be especially problematic for individuals who are chronically anxious about their relationships, many of whom feel under-supported during the transition to parenthood (Simpson, Rholes, Campbell, Tran, & Wilson, 2003). Moreover, anxiously-attached individuals struggle with low self-worth (Mikulincer & Shaver, 2016) and yearn to feel more secure, yet also have negative expectations regarding others' regard for them (Overall, Girme, Lemay, & Hammond, 2014). Are anxiously-attached people inevitably doomed to chronic worries, low self-worth, dashed expectations, and strained relationships?

The search for attachment anxiety-reducing processes examines uncharted territory. After decades of documenting the many features of attachment insecurity in adults, there is growing interest in identifying specific psychological processes that *enhance* security (e.g., Arriaga, Kumashiro, Simpson, & Overall, 2018; Carnelley & Rowe, 2007; Gillath & Karantzas, 2019; Simpson & Overall, 2014). The Attachment Security Enhancement Model (ASEM; Arriaga et al., 2018) offers a novel perspective on insecurity-reducing processes across time. According to the ASEM, current attachment anxiety is reduced when individuals receive proximal, sensitive support that conveys a safe bond with their partners. The reassurance and

commitment that anxiously-attached people crave (Tran & Simpson, 2009) should be particularly salient in stressful moments during the transition to parenthood (Bowlby, 1988).

However, what anxiously-attached individuals want during moments of felt insecurity may not reduce their chronic anxiety over time. Momentary relief often may not address the underlying mental representations (working models) that sustain chronic attachment anxiety. Instead, attachment anxiety should decline across time through opportunities to assert personal strengths and abilities (cf. Feeney & Collins, 2015) that enhance self-efficacy and self-worth. The current research tested novel predictions derived from the ASEM in a sample of first-time parents undergoing the transition to parenthood. The predictions reflect key distinctions: Feeling reassured by a partner should mitigate current attachment anxiety (concurrent process), whereas developing self-efficacy should reduce attachment anxiety over time (longitudinal process).

Adult Attachment Anxiety

Adult attachment orientations are shaped by prior social and life experiences (Bowlby, 1969, 1973; Fraley, Roisman, & Haltigan, 2013; Heffernan, Fraley, Vicary, & Brumbaugh, 2012), and possibly genetic predispositions in the case of attachment anxiety (Chen & Johnson, 2012). Previous interactions and experiences affect beliefs, expectations, and 'scripts' about one's self-worth (model of self) as well as current and future attachment figures (models of others).

Individuals who have received responsive care typically develop positive views of both themselves (as worthy of love) and others (as trustworthy and dependable). When confronting stressors, these securely-attached individuals turn to others if/when needed, knowing they have

a supportive base. Secure attachment is associated with numerous personal and relational benefits (Li & Chan, 2012; Pietromonaco, Uchino, & Dunkel-Schetter, 2013).

Anxiously-attached individuals, in contrast, have a history of receiving inconsistent or overly intrusive care, which robs them of opportunities to develop an autonomous, competent sense of self (Feeney & Thrush, 2010). Consequently, they doubt their self-worth (negative model of self) and do not know whether they can truly rely on others (ambivalent model of others). Anxiously-attached individuals, therefore, have negative self-concepts, an unsatiated desire for closer connections, and fear of being disappointed.

The Transition to Parenthood and Changes in Attachment Anxiety: An ASEM Perspective

Anxiously-attached individuals tend to perceive interpersonal experiences in ways that sustain their insecurity (Bretherton & Munholland, 2008; Hudson & Fraley, 2018; see Fraley & Roisman, 2019, for a discussion of socialization versus selection processes). Nevertheless, people do sometimes become less anxiously attached (Arriaga, Kumashiro, Finkel, VanderDrift, & Luchies, 2014; see also Chopik, Edelstein, & Grimm, 2019). How does this occur?

Insecure working models should change when model-inconsistent information is encountered repeatedly in a clear, salient manner. This is more likely to happen during novel and/or challenging phases of life that afford new ways of perceiving oneself and significant others (Arriaga et al., 2018; Simpson et al., 2003). According to Bowlby (1988), the transition to parenthood is one such life event. The ASEM posits distinct, context-specific processes that operate in unison to reduce anxiety during moments like the transition to parenthood.

Buffering current insecurity. Most first-time parents experience turbulence and stress as old routines are abandoned and new responsibilities are assumed (Cowan & Cowan, 2000).

Anxiously-attached individuals confronting transitions or stress are particularly likely to amplify needs for their partners to be available, responsive, and supportive (Alexander, Feeney, Hohaus, & Noller, 2001; Schoppe-Sullivan, Settle, Lee, & Kamp Dush, 2016). Any intense displays of insecurity should be assuaged if their partners immediately soothe their worries and provide proximal, sensitive reassurance (Lemay, 2014; Lemay & Dudley, 2011).

Although perceiving a partner as available and supportive in times of need can mitigate anxious thoughts and feelings, individuals who excessively rely on a partner are unlikely to develop a more secure model of self. Over-reliance on a partner for a sense of security may inadvertently sustain attachment anxiety (Arriaga et al., 2018). Moreover, partners can grow tired of continually having to provide reassurance (Lemay & Dudley, 2011; Overall et al., 2014).

Accordingly, new parents who experience momentary reassurance from a partner will likely feel less attachment anxious in the moment, but may not exhibit reductions in chronic attachment anxiety across time. We anticipated that greater reassurance from the partner should be associated with lower levels of attachment anxiety concurrently, but it should not predict over-time declines in attachment anxiety (*Hypothesis 1*).

Reducing chronic attachment anxiety. Chronic (long-term) attachment anxiety is likely to decline by changing insecure working models and reducing over-dependence on others, which is known to lower self-worth (Hepper & Carnelley, 2012). New experiences that enhance self-efficacy—if sufficiently salient and impactful—should revise the negative model of self that undergirds attachment anxiety (Mikulincer & Shaver, 2016).

Feeling effective and competent in a new parenting role creates precisely the type of novel experience that can cause working models to change. New parenthood tends to be

stressful, but rewarding and gratifying moments can offer opportunities for significant growth and change (Sawyer et al., 2012). Anxiously-attached parents who feel personally competent, efficacious, and valued in their new parenting role should exhibit declines in attachment anxiety across time.

Longitudinal studies have not tested whether new experiences of self-efficacy predict declines across time in adult attachment anxiety. The ASEM suggests many paths to improving one's model of self, including developing a new sense of self-efficacy. Previous research examined another path: feeling personally validated. In a study with romantic couples (Arriaga et al., 2014), feeling that one's personal goals were validated by a partner predicted declines across time in chronic attachment anxiety, beyond the effects of trusting a partner; trust was concurrently associated with lower anxiety but did not reliably predict declines in attachment anxiety across time.

Accordingly, greater partner reassurance should buffer "in-the-moment" attachment anxiety (i.e., concurrent association; Hypothesis 1, above). However, longitudinally, we anticipated that greater parenting self-efficacy, as indexed by feeling competent and deriving self-worth from parenting, should predict declines in attachment anxiety over time (*Hypothesis 2*).

Current Study

These two hypotheses were tested with couples who completed surveys across two years, before and at several points following the birth of their first child.¹ We assessed the degree to which each person felt reassured by their partner when needed and felt efficacious

¹ The current analysis is based on the Transition to Parenthood data set collected by Jeff A. Simpson and W. Steve Rholes. Several other papers have utilized this data set, none of which involved predicting changes in attachment anxiety. The full list of papers is available in the supplemental online material (SOM).

as a parent, to predict the person's current and future level of attachment anxiety (i.e., concurrent versus lagged associations). To discount alternative explanations, we also examined whether over-time declines in attachment anxiety were explained by: (a) a satisfying and close parent-child bond (as distinct from parenting self-efficacy), or (b) the *partner's* parenting self-efficacy (which may relieve some of one's own responsibility for childcare).²

Method

Design and Participants

Couples were recruited from childbirth preparation classes and with fliers distributed at local hospitals. The inclusion criteria were being married or cohabitating and expecting a first biological child. Data collection took place across five assessment waves ("Times"): Time 1 occurred 6 weeks before the expected due date, and the other Times occurred after the birth (Time 2 at 6 months, Time 3 at 12 months, Time 4 at 18 months, and Time 5 at 24 months). Of the 192 couples that completed Time 1, 55 dropped out of the study by Time 5 (24-months after childbirth). The final sample consisted of 137 complete dyads (144 women, 137 men).³

Most couples (95%) were married (mean duration: 3.3 years, $SD = 2.6$; unmarried mean duration: 1.85 years, $SD = 2.2$). On average, male partners were 28.4 years-old ($SD = 4.4$) and female partners were 26.7 years-old ($SD = 4.1$). Most participants were Caucasian (82%; 9% Asian; 9% Hispanic). All but 6% of participants had some college education.

² The analyses controlled for attachment avoidance. Theory regarding the unique processes affecting attachment avoidance is beyond the scope of this paper.

³ The target sample size for this study was determined by examining sample sizes necessary to detect small to medium effects (Cowan & Cowan, 2000). Studies using similar designs when the data were collected (starting in 2002) typically had around 150 dyads at the initial stage of data collection. Power analyses are presented below.

Procedure

At each wave, both partners in each couple were mailed a questionnaire in separate envelopes, were given separate stamped return envelopes, and were instructed to complete and return the questionnaires independently. Couples were paid \$50 for completing each of the first three assessments (Time 1-3), and \$75 for Times 4 and 5 to reduce attrition. Couples who completed all five assessments were entered into a drawing for two \$500 cash prizes.

Measures

At each assessment, participants completed a battery of self-report measures. Only the scales relevant to the current predictions are reported below.

Perceived reassurance. At each time, the Caregiving Scale (Kunce & Shaver, 1994) assessed individuals' perceptions of their partner's responsiveness/reassurance when needed within the past month. The proximity maintenance subscale assessed the perceived closeness of the partner (8 items; e.g., "When I want or need a hug, my partner is glad to provide it", "When I am troubled or upset, my partner moves closer to provide support or comfort"; across all times, alphas ranged from .88 to .90 for women and from .84 to .90 for men). The sensitivity subscale assessed the perceived sensitivity of the partner (8 items; e.g., "My partner can always tell when I need comforting, even when I don't ask for it", "My partner is very good at recognizing my needs and feelings, even when they're different from his/her own"; across all times, alphas ranged from .92 to .94 for women and from .89 to .93 for men). Participants indicated their agreement with each item on a 1 (*disagree strongly*) to 7 (*agree strongly*) Likert-type scale. Mean scores for each subscale were computed for each time.

The two subscales were highly correlated (average r across times = .67 for women and .59 for men) and therefore were combined into a single measure (scores could range from 2 to 14), with higher scores reflecting greater perceived reassurance from the partner. Ancillary analyses examined a parallel measure with items reworded to assess the reassurance individuals provided to their partner (see Supplemental Online Materials).

Parenting self-efficacy. At each time, the Childcare Satisfaction Inventory (Pistrang, 1984) assessed parenting self-efficacy (12-items; e.g., “My baby makes me feel more competent”, “My baby gives me a sense of accomplishment”; across all times, alphas ranged from .90 to .95 for women and from .92 to .95 for men). Participants indicated their agreement with each item on a 1 (*never*) to 5 (*very often*) rating scale. Mean scores were computed for each time, with higher scores indicating higher parenting self-efficacy.

Ancillary analyses examined the *partner’s* parenting self-efficacy (cross-partner effect), given that both partners completed the measure of parenting self-efficacy at each time. Also, each partner’s closeness with their baby and parenting satisfaction were assessed to test alternative explanations (see Supplemental Online Materials).

Attachment orientations. At each time, the Experience in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998) assessed adult attachment orientations with respect to partners/relationships in general. The attachment anxiety subscale included 18-items (e.g., “I worry a lot about my relationships”, “My desire to be very close sometimes scares people away”; across times, alphas ranged from .90 to .96 for women and from .91 to .94 for men). The avoidance subscale was treated as a covariate (18 items; e.g., “I am nervous when partners get too close to me”, “I don’t feel comfortable opening up to romantic partners”; across all

times, alphas ranged from .87 to .96 for women and from .84 to .94 for men). Participants indicated their agreement with each item on a 7-point Likert-type scale, 1 (*strongly disagree*) and 7 (*strongly agree*). Mean scores for each subscale were computed for each time, with higher scores indicating greater anxiety or avoidance.

Results

Descriptive Analyses

Means and standard deviations are presented in Table 1, and correlations are presented in Table 2. Also see Supplemental Tables 1-2e (SOM). Partners exhibited significant within-couple correlations for several variables (e.g., perceived reassurance, parenting self-efficacy).

Data Analytic Method

To account for partners' correlated (non-independent) responses within each couple, the concurrent and lagged analyses utilized multilevel modeling for dyadic data (Kenny, Kashy, & Cook, 2006).⁴ Each person's repeated responses across time were nested within person, and couple members' responses were nested within each dyad. Estimates of intercepts and slopes were modeled as random effects to allow individuals to vary from each other in their pattern of repeated ratings (between-person variation across individuals, and to allow couples to vary from each other (between-couple variation across male-female dyads). Given possible gender effects in childcare roles (Katz-Wise, Priess, & Hyde, 2010) and the ability to distinguish couple members based on their gender, gender was modeled as a random effect, which allowed for variation between men and women (-1 for women; +1 for men).

⁴ Analyses were conducted using R (lme4). The supplemental online materials include sample syntax that was used in R. Degrees of freedom were estimated, which yielded decimal values (Long, 2012).

Table 1

Means and Standard Deviations for the Main Variables

Variable	Assessment Time				
	Prenatal	6 months	12 months	18 months	24 months
Men					
Attachment anxiety	2.74 (0.91)	2.59 (0.95)	2.50 (0.86)	2.54 (0.91)	2.50 (0.91)
Perceived partner reassurance	11.66 (1.53)	11.06 (1.99)	10.91 (2.01)	11.12 (2.01)	10.83 (2.03)
Parenting self-efficacy	4.09 (0.64)	4.06 (0.70)	4.06 (0.74)	4.14 (0.73)	4.14 (0.69)
Women					
Attachment anxiety	3.34 (1.06)	3.22 (1.17)	3.03 (1.04)	3.06 (1.13)	3.03 (1.19)
Perceived partner reassurance	11.44 (2.05)	10.95 (2.25)	10.83 (2.27)	10.87 (2.32)	10.76 (2.16)
Parenting self-efficacy	4.09 (0.58)	4.20 (0.63)	4.20 (0.71)	4.20 (0.76)	4.17 (0.79)

Note. Standard deviations are in parentheses. Supplemental Table 1 provides means and standard deviations for all variables at each time (see SOM).

Table 2

Correlations at Across all Assessments: Attachment Anxiety, Perceived Reassurance, and Parenting Self-Efficacy

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. T1 attachment anxiety	(0.09)	-0.41**	0.06	0.69**	-0.25**	0.04	0.73**	-0.36**	0.08	0.75**	-0.36**	0.08	0.70**	-0.34**	0.05
2. T1 perceived reassurance	-0.07	(0.4)	0.20**	-0.22**	0.70**	0.10	-0.29**	0.67**	0.08	-0.27**	0.58**	0.05	-0.18*	0.63**	0.09
3. T1 parenting self-efficacy	0.04	0.23**	(0.19)	-0.02	0.24**	0.48**	-0.05	0.21*	0.52**	-0.02	0.18*	0.55**	0.07	0.14	0.46**
4. T2 attachment anxiety	0.67**	-0.25**	-0.05	(-0.01)	-0.24**	0.02	0.67**	-0.22**	-0.04	0.70**	-0.22**	0.04	0.70**	-0.27**	0.07
5. T2 perceived reassurance	-0.10	0.57**	0.28**	-0.25**	(0.41)	0.16*	-0.23**	0.78**	0.24**	-0.15	0.62**	0.18*	-0.05	0.66**	0.24**
6. T3 parenting self-efficacy	0.03	0.14	0.57**	-0.10	0.29**	(0.21)	-0.03	0.17*	0.72**	0.06	0.13	0.69**	0.06	0.11	0.64**
7. T3 attachment anxiety	0.67**	-0.31**	-0.08	0.78**	-0.29**	-0.09	(-0.01)	-0.34**	-0.04	0.79**	-0.39**	-0.06	0.78**	-0.32**	-0.01
8. T3 perceived reassurance	-0.06	0.60**	0.23**	-0.24**	0.66**	0.20*	-0.31**	(0.39)	0.17*	-0.31**	0.77**	0.20*	-0.22*	0.75**	0.17*
9. T3 parenting self-efficacy	-0.08	0.23**	0.52**	-0.15	0.28**	0.67**	-0.24**	0.30**	(0.36)	0.00	0.17*	0.78**	0.03	0.15	0.61**
10. T4 attachment anxiety	0.57**	-0.31**	-0.05	0.65**	-0.33**	-0.07	0.70**	-0.26**	-0.31**	(0.05)	-0.36**	-0.05	0.85**	-0.32**	0.09
11. T4 perceived reassurance	-0.14	0.55**	0.17*	-0.24**	0.57**	0.16	-0.29**	0.62**	0.33**	-0.44**	(0.45)	0.23**	-0.27**	0.83**	0.15
12. T4 parenting self-efficacy	0.06	0.19*	0.56**	-0.04	0.21*	0.66**	-0.08	0.17*	0.69**	-0.16	0.31**	(0.31)	0.01	0.15	0.62**
13. T5 attachment anxiety	0.49**	-0.23**	0.06	0.48**	-0.30**	0.11	0.58**	-0.29**	-0.08	0.77**	-0.36**	0.02	(0.04)	-0.25**	0.02
14. T5 perceived reassurance	-0.06	0.44**	0.18*	-0.11	0.62**	0.06	-0.16	0.71**	0.27**	-0.33**	0.76**	0.16	-0.49**	(0.39)	0.19*
15. T5 parenting self-efficacy	-0.12	0.15	0.52**	-0.20*	0.10	0.57**	-0.22*	0.05	0.61**	-0.26**	0.17	0.67**	-0.12	0.19*	(0.27)

Note. Correlations among variables for women appear *above* the diagonal; those from men appear *below* the diagonal. The values along the diagonal (in parentheses) are correlations between measures collected from each dyad (the correlation between partners' scores). Supplemental Tables 2a-2e provide correlations among all variables within each timepoint (one table per Time; see SOM).

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

All models controlled for each person's attachment avoidance to isolate the effects on attachment anxiety. Lagged analyses controlled for attachment avoidance, either at the same time as the attachment anxiety outcome (presented below), or at the prior time (see supplemental online materials), which yielded the same pattern of results.

Concurrent analyses examined perceived reassurance from the partner and parenting efficacy as predictors of attachment anxiety, assessed within the same time. To model change in attachment anxiety across 6-month lags, all predictor variables were person-mean centered, which provided an individual's score on a variable at a given time, relative to the individual's own mean score across time for that variable.⁵ Lagged models tested whether a person's score on a hypothesized variable at one timepoint predicted the same person's level of attachment anxiety at the next timepoint (e.g., Time 1 → Time 2, resulting in 4 lags per person), allowing individual means to vary (i.e., random effects modeling; see Hamaker, Kuiper, & Grasman, 2015).⁶ Lagged analyses controlled for attachment anxiety and other key predictors at the prior time, to isolate the effect of a hypothesized variable beyond the effects of stable attachment tendencies and other predictors. Thus, the current approach examined whether predictors at a previous time (including prior anxiety) were associated with anxiety at the next time, controlling for within-time correlations among predictor variables.⁷

⁵ Within-person decreases in attachment anxiety were interpreted as indicating increased attachment security, independent of attachment avoidance.

⁶ Both concurrent and lagged models assumed consistent effects across timepoints given that: (1) there were no *a priori* reasons to expect associations to vary across the study; (2) anxiety revealed a linear pattern across the study, suggesting that general trends in anxiety did not vary at different times of data collection; and (3) aggregating lags across time increased statistical power and allowed for conclusions that generalize across the entire study period.

⁷ Structural equation modeling (SEM) provides an alternate approach (McArdle, 2009), which also would control for within-time correlations of the attachment anxiety *outcome* with efficacy and reassurance, instead of controlling only for within-time correlations among these variables as predictors. SEM would have required a much larger sample size given that the current design involved four lags (cf. Hounkpatin, Boyce, Dunn, & Wood, 2018).

Power analyses were conducted post-hoc (see footnote 3 regarding the sample size determination), using the *SIMR* package in *R* for linear mixed effects models (Green & MacLeod, 2016). The effect sizes and *N* from each model were entered as parameters into Monte Carlo simulations, which are flexible enough to account for nesting within dyad and time (Lane & Hennes, 2018). The alpha was set to .05, the seed was set to 1234, and 1000 simulations were run. Following recommendations by Lane and Hennes (2018), power was computed as the percentage of times an effect was significant across all simulations. In the concurrent model, the hypothesized effect of reassurance had a predictive power of 78.90%. In the lagged model, the hypothesized effect of self-efficacy had a predictive power of 73.90%

Concurrent Model

The concurrent model examined within-time associations of perceived reassurance and parenting self-efficacy with attachment anxiety (see Table 3). As predicted (Hypothesis 1), perceiving greater reassurance from a partner was associated concurrently with less attachment anxiety. The effect of parenting self-efficacy was not significant, and no effects were moderated by gender.

Additional models examined *partner* reports of *providing* reassurance. Own perceptions of receiving reassurance were correlated with partner reports of providing reassurance, but the cross-partner association of *partner* reports with one's own attachment anxiety was not significant in either concurrent or lagged models (see Supplemental Online Materials).

Table 3

Concurrent Model Predicting Attachment Anxiety From Perceived Reassurance and Parenting Self-Efficacy

	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% Confidence Interval	
						<i>Lower</i>	<i>Upper</i>
(Intercept)	2.85	0.07	15.27	39.86	<.001	2.71	3.00
Gender	-0.29	0.04	164.29	-6.50	<.001	-0.38	-0.20
Perceived reassurance	-0.06	0.01	1141.59	-4.76	<.001	-0.09	-0.04
Parenting self-efficacy	-0.04	0.04	1144.07	-1.15	.249	-0.12	0.03
Attachment avoidance	0.26	0.03	1141.05	8.71	<.001	0.21	0.32
Gender x perceived reassurance	-0.01	0.01	1138.52	-0.41	.680	-0.03	0.02
Gender x parenting self- efficacy	0.04	0.04	1142.70	1.17	.244	-0.03	0.12

Note. Predictors were assessed within the same time. The model accounted for all five timepoints (T1 to T5). Gender was coded -1 for females and 1 for males.

Lagged Model

The lagged model examined whether perceived reassurance and parenting self-efficacy predicted change in attachment anxiety as assessed at the next time (i.e., controlling for level of attachment anxiety assessed at the same time as the predictors and attachment avoidance at the same time as the outcome; see Table 4). As predicted (Hypothesis 2), greater parenting self-efficacy predicted over-time declines in attachment anxiety, whereas the effect of perceived reassurance was not significant. These effects were not moderated by gender.

Additional lagged analyses tested alternative explanations for the association between parenting self-efficacy and over-time declines in attachment anxiety. First, this link may be driven by a third variable: The quality of the parent-child bond. Parents who experience a closer or more satisfying bond with their child may feel more effective as a parent, which could generate greater security. Each parent's closeness with their baby and parenting satisfaction

were tested in lagged models parallel to those testing parenting self-efficacy. Neither variable predicted change in attachment anxiety across time (see Supplemental Tables 5a-6b).

Table 4

Lagged Model Predicting Change in Attachment Anxiety from Prior Perceived Reassurance and Prior Parenting Self-Efficacy

Predicting Attachment Anxiety at Time T from:	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% Confidence Interval	
						<i>Lower</i>	<i>Upper</i>
(Intercept)	2.81	0.07	19.43	42.69	< .001	2.69	2.94
Gender	-0.29	0.05	157.91	-5.93	< .001	-0.38	-0.19
Prior perceived reassurance (T-1)	0.00	0.01	794.33	-0.19	.849	-0.03	0.03
Prior parenting self-efficacy (T-1)	-0.09	0.04	817.04	-1.98	.043	-0.16	-0.01
Prior attachment anxiety (T-1)	0.12	0.03	815.47	3.50	< .001	0.05	0.18
Avoidance (T)	0.40	0.04	797.63	11.03	<.001	0.33	0.47
Gender x perc. reassurance (T-1)	0.00	0.01	810.00	-0.20	.841	-0.03	0.02
Gender x parent. self-efficacy (T-1)	0.02	0.04	816.29	0.44	.659	-0.06	0.10

Note. The model accounted for all four 6-month predictor-outcome lags (i.e., T1 → T2, T2 → T3, T3 → T4, T4 → T5). Gender was coded -1 for females and 1 for males. Prior anxiety was assessed at the same time as the other predictors, and all predictors were assessed 6-months prior to the attachment anxiety outcome (T). Avoidance was assessed at the same time as the attachment anxiety outcome (T). The same pattern occurred when prior avoidance (T-1) was included instead of same-time avoidance (T); see SOM, Supplemental Table 4.

Second, individuals may feel more at ease and less anxious if their partner provides more efficacious parenting. A lagged model examined whether *partner* reports of self-efficacy predicted declines in one's own attachment anxiety. The effect of partner self-efficacy on one's own change in attachment anxiety was not significant (see Supplemental Tables 7a-7b).

Discussion

Existing research on adult attachment orientations has focused primarily on features and outcomes of attachment *insecurity*. Less is known about how and why attachment tendencies change over time. The current research tested novel predictions regarding specific processes that are theorized to reduce attachment anxiety and thus *enhance* security.

As predicted, the concurrent results revealed lower levels of current attachment anxiety when individuals perceived that their partner was providing more responsive reassurance (i.e., more proximally available, more sensitive to their needs). In contrast, and also as predicted, the longitudinal results revealed that greater partner reassurance did not result in long-term declines in chronic attachment anxiety, which instead was predicted by feeling more efficacious and competent as a parent (i.e., greater parent self-efficacy).

These divergent effects are not intuitively obvious, but they are consistent with the ASEM (Arriaga et al., 2018). Without the ASEM as a guide, one might assume that feeling reassured by one's partner should lead people to feel less anxiously-attached. Importantly, partner reassurance mitigates in-the-moment attachment anxiety. However, partner reassurance alone does not seem sufficient to alter negative working models of the self, which underlie attachment anxiety. Instead, anxiously-attached individuals exhibit greater chronic security following exposure to new, salient experiences that produce heightened competence and self-efficacy. The current findings support these ideas.

Enhanced security is likely to foster personal and relational well-being (Mikulincer & Shaver, 2016). When anxiously-attached individuals discover and continue to derive more confidence in their role as parents, their chronic attachment-related worries may give way to

greater autonomy. These changes may then reduce the relational strain typically caused by being preoccupied with a partner's regard and commitment (i.e., reduced hyperactivation strategies, Cassidy & Kobak, 1988; Grosnell & Gable, 2013; Overall et al., 2014). Enhanced security is also likely to buoy these individuals during challenging moments by promoting their resilience and enabling them to thrive (Feeney & Collins, 2015). To date, there has been limited research on the mechanisms that generate enhanced security. The current research identifies an important mechanism for anxiously-attached individuals: deriving a sense of self-efficacy and competence within a new, important life domain, while also attaining reassurance from a loved one as needed in the moment.

Although novel and consequential, this research has some limitations. Our parenting-efficacy mechanism was tested using non-experimental longitudinal data and cannot establish a causal link. Nevertheless, we ruled out some viable alternative explanations. Additionally, our findings may not extend to couples in other countries or cultures, or to couples not experiencing a major life transition. Future research also should compare parenting versus work self-efficacy, which could have divergent results (Keizer, Dykstra, & Poortman, 2010). Finally, it will be important to replicate the current findings using non-self-report measures.

In conclusion, during the transition to parenthood, what assuages attachment anxiety "in-the-moment" does not necessarily produce long-term reductions in attachment anxiety. Much can be gained from examining security mechanisms that are unique to each attachment orientation and differentiate concurrent versus long-term processes.

References

- Alexander, R., Feeney, J., Hohaus, L., & Noller, P. (2001), Attachment style and coping resources as predictors of coping strategies in the transition to parenthood. *Personal Relationships, 8*, 137-152. doi:10.1111/j.1475-6811.2001.tb00032.x
- Arriaga, X. B., Kumashiro, M., Finkel, E. J., VanderDrift, L. E., & Luchies, L. B. (2014). Filling the void: Bolstering attachment security in committed relationships. *Social Psychological and Personality Science, 5*, 398-405. doi: 10.1177/1948550613509287
- 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*, 71-96. doi: 10.1177/1088868317705257
- Belsky, J., & Rovine, M. (1990). Patterns of marital change across the transition to parenthood: Pregnancy to three years postpartum. *Journal of Marriage and Family, 52*, 5-19.
- Bowlby, J. (1969). *Attachment and loss, Vol. 1: Attachment (1st ed.)*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, anxiety, and anger*. New York: Basic Books.
- Bowlby, J. (1988). *A Secure Base*. New York: Basic Books.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships*. New York: Guilford.
- Bretherton, I., & Munholland, K. A. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. In J. Cassidy, P. R. Shaver, J.

- Cassidy, P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications (2nd ed.)* (pp. 102-127). New York, NY: Guilford Press.
- Carnelley, K. B., & Rowe, A. C. (2007). Repeated priming of attachment security influences immediate and later views of self and relationships. *Personal Relationships, 14*, 307-320.
- Cassidy, J., & Kobak, R. R. (1988). Avoidance and its relationship with other defensive processes. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 300-323). Hillsdale, NJ: Erlbaum.
- Chen, F. S., & Johnson, S. C. (2012). An oxytocin receptor gene variant predicts attachment anxiety in females and autism-spectrum traits in males. *Social Psychological and Personality Science, 3*, 93-99.
- Chopik, W. J., Edelstein, R. S., & Grimm, K. J. (2019). Longitudinal changes in attachment orientation over a 59-year period. *Journal of Personality and Social Psychology, 116*, 598-611.
- Cowan, C. P., & Cowan, P. A. (2000). *When partners become parents: The big life change is couples*. Mahwah, NJ: Erlbaum.
- Feeney, B. C. & Collins, N. L. (2015). A new look at social support: A theoretical perspective on thriving through relationships. *Personality and Social Psychology Review, 19*, 113-147.
- Feeney, B. C., & Thrush, R. L. (2010). Relationship influences on exploration in adulthood: The characteristics and function of a secure base. *Journal of Personality and Social Psychology, 98*, 57-76.
- Fraley, R. C., & Roisman, G. I. (2019). The development of adult attachment styles: four lessons. *Current Opinion in Psychology, 25*, 26-30.

- Fraley, R. C., Roisman, G. I., & Haltigan, J. D. (2013). The legacy of early experiences in development: Formalizing alternative models of how early experiences are carried forward over time. *Developmental Psychology, 49*, 109-126.
- Gillath, O., & Karantzas, G. (2019). Attachment security priming: A systematic review. *Current Opinion in Psychology, 25*, 86-95. doi.org/10.1016/j.copsyc.2018.03.001
- Gosnell, C., & Gable, S. L. (2013) Attachment and capitalizing on positive events. *Attachment and Human Development, 15*, 281-302. DOI: 10.1080/14616734.2013.782655
- Green, P., & MacLeod, C. J. (2016). SMIR: An R package for power analysis of generalized linear mixed models by simulation. *Methods in Ecology and Evolution, 7*, 493-498. doi: 10.1111/2041-210X.12504.
- Hamaker, E.L., Kuiper, R.M., & Grasman, R.P.P.P. (2015). A critique of the cross-lagged panel model. *Psychological Methods, 20*, 102-116
- Heffernan, M.E., Fraley, R.C., Vicary, A.M., & Brumbaugh, C.C. (2012). Attachment features and functions in adult romantic relationships. *Journal of Social and Personal Relationships, 29*, 671-693. doi: 10.1177/0265407512443435.
- Hepper, E.G., & Carnelley, K.B. (2012). The self-esteem roller coaster: Adult attachment moderates the impact of daily feedback. *Personal Relationships, 19*, 504-520.
- Hounkpatin, H.O., Boyce, C.J., Dunn, G., & Wood, A.M. (2018). Modeling bivariate change in individual differences: Prospective associations between personality and life satisfaction. *Journal of Personality and Social Psychology, 115*, e12-e29.
- Hudson, N. W., & Fraley, R. C. (2018). Does attachment anxiety promote the encoding of false memories? An investigation of the processes linking adult attachment to memory

- errors. *Journal of Personality and Social Psychology*, *115*, 688-715.
<http://dx.doi.org/10.1037/pspp0000215>
- Katz-Wise, S. L., Priess, H. A., & Hyde, J. S. (2010). Gender-role attitudes and behavior across the transition to parenthood. *Developmental Psychology*, *46*(1), 18–28.
<https://doi.org/10.1037/a0017820>
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York: Guilford.
- Keizer, R., Dykstra, P. A., & Poortman, A. R. (2010). The transition to parenthood and well-being: The impact of partner status and work hour transitions. *Journal of Family Psychology*, *24*, 429–438. <https://doi.org/10.1037/a0020414>
- Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew & D Perlman (Eds.) *Attachment processes in adulthood*. Jessica Kingsley Publishers, London.
- Lane, S. P. & Hennes, E. P. (2018). Power struggles: Estimating sample size for multilevel relationships research. *Journal of Social and Personal Relationships*, *35*, 7-31.
- Lemay, E. P., Jr. (2014). Accuracy and bias in self-perceptions of responsive behavior: Implications for security in romantic relationships. *Journal of Personality and Social Psychology*, *107*, 638-656. <http://dx.doi.org/10.1037/a0037298>
- Lemay, E. P., Jr., & Dudley, K.L. (2011). Caution: Fragile! Regulating the interpersonal security of chronically insecure partners. *Journal of Personality and Social Psychology*, *100*, 681-702.
- Li, T., & Chan, D. K. S. (2012). How anxious and avoidant attachment affect romantic relationships quality differently: A meta-analytic review. *European Journal of Social Psychology*, *42*, 406-419.

- Long, J. D. (2012). *Longitudinal data analysis for the behavioral sciences using R*. Thousand Oaks, CA: Sage.
- McArdle, J.J. (2009). Latent variable modeling of differences and changes with longitudinal data. *Annual Review of Psychology, 60*, 577-605.
- Mikulincer, M., & Shaver, P. R. (2016). *Attachment in Adulthood: Structure, Dynamics, and Change* (2nd ed.). New York: The Guildford Press.
- Overall, N. C., Girme, Y.U., Lemay, E. P. Jr., & Hammond, M.T. (2014). Attachment anxiety and reactions to relationship threat: The benefits and costs of inducing guilt in romantic partners. *Journal of Personality and Social Psychology, 106*, 235-256.
- Pietromonaco, P. R., Uchino, B., & Dunkel-Schetter, C. (2013). Close relationship processes and health: Implications of attachment theory for health and disease. *Health Psychology, 32*, 499-513.
- Pistrang, N. (1984). Women's work involvement and the experience of new motherhood. *Journal of Marriage and Family, 46*, 433-447. doi:10.2307/352475
- Sawyer, A., Ayers, S., Young, D., Bradley, R., & Smith, H. (2012) Posttraumatic growth after childbirth: A prospective study. *Psychology and Health, 27*, 362-377.
DOI: 10.1080/08870446.2011.578745
- Schoppe-Sullivan, S. J., Settle, T., Lee, J., & Kamp Dush, C. M. (2016) Supportive coparenting relationships as a haven of psychological safety at the transition to parenthood. *Research in Human Development, 13*, 32-48. DOI: 10.1080/15427609.2016.1141281
- Simpson, J. A., & Overall, N. C. (2014). Partner buffering of attachment insecurity. *Current Directions in Psychological Science, 23*, 54-59.

Simpson, J.A., Rholes, W.S., Campbell, L., Tran, S., & Wilson, C.L. (2003). Adult attachment, the transition to parenthood, and depressive symptoms. *Journal of Personality and Social Psychology, 84*, 1172-1187. doi.org/10.1037/0022-3514.84.6.1172

Simpson, J.A., Rholes, W.S., Campbell, L., & Wilson, C.L. (2003). Changes in attachment orientations across the transition to parenthood. *Journal of Experimental Social Psychology, 39*, 317-331. doi: 10.1016/s002-1031(03)00030-1

Tran, S., & Simpson, J. A. (2009). Prorelationship maintenance behaviors: The joint roles of attachment and commitment. *Journal of Personality and Social Psychology, 97*, 685-698.