



The Role of Early Adaptive Schemas in Heterosexual Romantic Relationships

Madison Sundgren¹ · Andrew Allen¹

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Abstract

The current study aimed to examine the emerging role of early adaptive schemas within heterosexual romantic relationships. In accordance with schema theory, it was hypothesised that endorsing greater early adaptive schemas would predict higher levels of relationship quality. A total of 941 heterosexual adults (age, $M=32.44$ years), who identified as being in a current romantic relationship (relationship duration, $M=7.92$ years), completed questionnaires online. Early adaptive schemas were measured using the Young Positive Schema Questionnaire. Relationship quality was measured by relationship and sexual satisfaction. Hierarchical multiple regression analyses revealed that, after controlling for potential confounding variables, higher levels of the early adaptive schemas of Emotional Fulfilment and Self-Care predicted greater relationship and sexual satisfaction. The current findings suggest that specific early adaptive schemas may be beneficial for bolstering romantic relationship quality in heterosexual relationships. This preliminary evidence may inform the development of a more holistic schema-based couple therapy intervention. Specifically, one which incorporates the enhancement of early adaptive schemas to promote sexual and relationship wellbeing in couples. Future research is required to elucidate the explanatory mechanisms and to examine whether integrating early adaptive schemas into schema therapy does indeed have a positive effect on therapy outcomes.

Keywords Early adaptive schemas · Romantic relationship quality · Relationship satisfaction · Sexual satisfaction · Early maladaptive schemas

✉ Andrew Allen
aallen2@usc.edu.au

¹ University of the Sunshine Coast, Maroochydore DC, QLD, Australia

Introduction

Meaningful close connections are fundamental to human life and form the basis of human experience. Stable and fulfilling relationships provide humans with opportunities to satisfy fundamental needs (Sagkal & Ozdemir, 2019; Vollmann et al., 2019), which promote positive outcomes, including improved physical and mental health (Adamczyk et al., 2021; Waldinger et al., 2015), life satisfaction (Dyrdal et al., 2011), quality of life, and subjective wellbeing (Gomez-Lopez et al., 2019).

Despite the well-documented benefits, creating and maintaining romantic relationships can be challenging. Numerous studies have reported that relationship dissatisfaction and dissolution are associated with greater levels of loneliness (de Jong Gierveld & Broese van Groenou, 2016), poorer psychological wellbeing (Mirsu-Paun & Oliver, 2017), and a wide array of long-term health risks (Sbarra et al., 2019), including greater morbidity and mortality (Floud et al., 2014; Kojima et al., 2020; Robles et al., 2014). Understanding why some couples are happier than others remains a prominent focus of academic investigation (e.g., Fentz & Trillingsgaard, 2017).

Romantic relationship quality may be broadly defined as the subjective, global evaluation of the positive and negative aspects of one's relationship (Farooqi, 2014; Morry et al., 2010). This encompasses components such as relationship satisfaction and sexual satisfaction (e.g., Fletcher et al., 2016). Relationship satisfaction refers to the subjective evaluation of the level of warmth, support, and emotional connection within one's relationship (Fincham et al., 2018). Sexual satisfaction refers to how pleasurable, satisfying, and valuable one perceives physical intimacy with their spouse (Lawrance & Byers, 1995). Whilst relationship and sexual satisfaction are positively correlated (McNulty et al., 2016), longitudinal evidence suggests both represent unique constructs that may have differing determinants (Fallis et al., 2016). Furthermore, relationship and sexual satisfaction have been associated with greater levels of relationship maintenance (Ogolsky et al., 2017), in which individuals engage in prosocial behaviours designed to ensure the continuance of meaningful relationships by strengthening relationships, preventing breakdown, or through the process of rupture and repair (Fallis et al., 2016; Gottman & Gottman, 2008). This suggests that examining both sub-components of relationship quality may be pertinent when evaluating couples functioning.

A vast body of research has identified key factors that enhance these components of relationship quality, including communication and conflict resolution skills (see Ogolsky et al., 2017 for a review). More recently, studies have begun to explore the connection between early life experiences and relationship quality in adulthood (e.g., Pizzirani et al., 2021; Sommantico et al., 2018). Longitudinal evidence suggests that warm and nurturing family environments in childhood (Grossmann et al., 2006) and adolescence (Waldinger & Schulz, 2016) significantly predict secure attachment bonds with romantic partners later in life. Secure bonds are characterised by greater intimacy, loving behaviour, comfort

with seeking and providing care, and relationship satisfaction (see Mikulincer & Shaver, 2016 for a comprehensive review). In contrast, adverse childhood experiences, which are associated with cold and neglectful family environments, predict interpersonal difficulties (Mosley-Johnson et al., 2019; Poole et al., 2018) and poor relational outcomes later in life (Doyle & Cicchetti, 2017; Obsuth et al., 2014). Considering the associations between early life and downstream relational outcomes, elucidating the explanatory mechanisms may be pertinent to ensure the efficacy of couples-based therapy interventions. Schema theory (Young, 1990; Young et al., 2003) offers a comprehensive framework to understand the relationships between early life experiences and relationship outcomes.

Schema Theory

Young and colleagues (Young, 1990; Young et al., 2003) proposed that schemas develop through the internalisation of core emotional needs being adaptively met or thwarted during early childhood and adolescence. Core emotional needs are postulated to be universal human needs, such as the need to form a secure attachment to others (Young et al., 2003). When core emotional needs are met in a consistent and loving manner by warm and responsive caregivers, early adaptive schemas develop (Louis et al., 2018). In contrast, early maladaptive schemas develop when core emotional needs are toxically frustrated, such as being raised within abusive, rejecting, or cold family environments (Arntz & Jacob, 2017). Despite the presence of both early adaptive and maladaptive schemas, research to date has focused largely on early maladaptive schemas.

Early Maladaptive Schemas

Early maladaptive schemas are defined as enduring dysfunctional cognitive patterns that encompass memories, cognitions, emotions, and bodily sensations (Young, 1990; Young et al., 2003). These self-defeating themes are assimilated into an individual's sense of identity and accepted as truths regarding the self, others, and the world (Young et al., 2003). When activated, early maladaptive schemas bias how information is filtered, processed, interpreted, and organised (Arntz & Jacob, 2017). Consequently, early maladaptive schemas may become continuously reinforced, elaborated, and strengthened throughout life (Arntz & Jacob, 2017). Young et al. (2003) defined 18 distinct early maladaptive schemas. These schemas have been empirically grouped into five higher-order schema domains, each corresponding theoretically to a core emotional need (see Supplemental Material).

Early Maladaptive Schemas and Relationships

Numerous correlational studies have found that early maladaptive schemas are associated with lower relationship quality in heterosexual romantic relationships (Eftekhari et al., 2018; Esmaili et al., 2016; Mohammadi & Soleymani, 2017), including lower couples satisfaction (Dumitrescu & Rusu, 2012) and reduced sexual

satisfaction (Hashemian et al., 2015; Kebritchi & Mohammadkhani, 2016). A recent metaanalysis by Janovsky et al. (2020) examined the influence of specific schemas on interpersonal functioning using 42 cross-sectional and six longitudinal studies ($N=14,932$). Findings revealed a moderate association between early maladaptive schemas and interpersonal problems, with schemas involving themes of rejection found to have the strongest influence (i.e., emotional deprivation schema). Taken together, it is evident that the presence of early maladaptive schemas is an important consideration when assessing couples' overall functioning and relationship quality. Despite this, there has been no research examining the theoretical counterpart of early maladaptive schemas, that is, early adaptive schemas.

Early Adaptive Schemas

Early adaptive schemas are defined as a “broad, pervasive theme or pattern, comprised of memories, emotions, cognitions, and neurobiological reactions regarding oneself and one’s relationship with others, developed during childhood or adolescence, elaborated throughout one’s lifetime and leading to healthy functioning and adaptive behavioural dispositions” (Lockwood & Perris, 2012, p. 54). Early adaptive schemas develop through repeated interactions with a reliable and responsive caregiver who meets an individual’s core emotional needs in an adequate and predictable manner. As a result, individuals hold positive beliefs towards themselves (e.g., see themselves as inherently acceptable, lovable, worthwhile) and positive expectations about others as being loving, caring, and responsive.

Early adaptive schemas were initially theorised as the positive counterpart of early maladaptive schemas, although empirical evidence indicates that these represent additional schemas, with predictive ability over and above early maladaptive schemas (Louis et al., 2018). Louis et al. (2018) identified 14 unique early adaptive schemas using the Young Positive Schema Questionnaire (YPSQ). This novel instrument was developed using a multigroup confirmatory factor analysis, which revealed early adaptive schemas predicted greater positive qualities including, gratitude, humor, agreeableness, and life satisfaction (Louis et al., 2018).

The research to date suggests individuals could have developed both positive and negative schemas, which would likely be activated by different scenarios throughout the lifespan. Moreover, as early adaptive schemas represent distinct dimensions, it is likely that traditional schema therapy which aims to weaken early maladaptive schemas, would not inherently strengthen early adaptive schemas (Louis et al., 2018). Failing to enhance early adaptive schemas in therapeutic settings may reduce the potential for improved clinical outcomes for both individuals and couples experiencing distress.

This approach highlights the importance of clinicians placing an equal focus on the promotion of positive functioning alongside traditional goals to reduce dysfunction or psychopathology (Wood & TARRIER, 2010). The benefits of this are widespread, with research linking the positive characteristics, such as positive affect, psychological flexibility, optimism, and gratitude with reduced psychopathology (Chakhssi et al., 2018; Wood et al., 2010). Enhancing positive functioning may also

buffer against future psychopathology and relapse (Trompetter et al., 2017). These findings support the notion that wellbeing is not merely the absence of mental disorder, but also the presence of psychological resources (e.g., Galderisi et al., 2015), encouraging exploration of the role of early adaptive schemas.

Rationale

To date, research has not examined the relationship between early adaptive schemas and relationship quality within the context of romantic relationships. The present research aims to fill this gap by exploring the association between early adaptive schemas and relationship and sexual satisfaction, using data from individuals in committed relationships.

This research focused solely on early adaptive schemas for two reasons. Firstly, there is a large body of research that has examined early maladaptive schemas, however, no research examining the role of early adaptive schemas within relationships. Secondly, as an ethical consideration, authors decided not to include an early maladaptive schemas questionnaire to minimise participant fatigue. This decision aimed to reduce the likelihood of attrition and response bias due to fatigue.

The scope of the current study was limited to individuals who identified as being in a committed heterosexual relationship. This limited scope aimed to reduce extraneous variables confounding the data, as previous research has found differences between heterosexual and homosexual relationships (e.g., Landolt et al., 2004; Ryan et al., 2009). Moreover, couples in homosexual relationships may have different combinations of schemas due to unique challenges faced by homosexual individuals. For instance, individuals in same-sex relationships may face parent and peer rejection due to their sexual orientation (Starks & Parsons, 2013). They may also experience stigma within society (Herek, 2004; Steffens, 2005), contributing to minority stress (Meyer, 1995) and rejection sensitivity (Pachankis et al., 2008). Consequently, it is argued that heterosexual and homosexual populations should be examined separately to ensure generalisability of the findings.

Understanding the relationship between early adaptive schemas and their associated outcomes is essential for clinicians. Such findings may strengthen practitioners' knowledge regarding the role of positive functioning within schema therapy. Research in this area may also promote the development and integration of a wider variety of effective intervention techniques, including strategies to enhance positive functioning within romantic relationships.

Hypotheses

The goal of the present study was to extend previous research by considering the associations between early adaptive schemas and relationship quality within the context of romantic relationships. It was hypothesised that higher scores on early adaptive schemas would predict significantly greater relationship satisfaction (H_1) and sexual satisfaction (H_2). It is reasonable to assume that schemas within the Connection and Acceptance domain would have the strongest association with relationship quality due

to their conceptual and theoretical overlap with emotional intimacy. However, given the paucity of research, no specific predictions were made regarding which early adaptive schemas would emerge as the strongest predictor of each component of relationship quality.

Methods

Participants

Data were collected from December 2021 to April 2022. A total of 1474 participants who completed all survey items were screened, of which 941 participants met the following criteria: (1) informed consent was provided, (2) 18 years of age or older, (3) currently in a romantic relationship, and (4) heterosexual sexual orientation. The final dataset included responses from 579 females (61.5%) and 362 males, ranging from 18 to 74 years ($M=32.44$, $SD=9.98$). The average relationship duration was 7.92 years ($SD=8.02$) and ranged from 1 to 50 years. Approximately half identified as either partnered (53.8%) or married (42.9%), and 3.3% identified as other (e.g., dating, engaged). Most participants reported having no children ($n=680$, 72.3%). A total of 341 (36.2%) self-reported having a mental or physical health concern for either themselves and/or their romantic partner. Nearly two-thirds were from predominately Western cultures, such as America (40.2%) Australia (19.2%), Canada (11.8%), United Kingdom (12.1%), and New Zealand (3.3%). The remaining participants identified as either European (9%) or other (e.g., Africa, Asia, South America; 4.4%). Two-thirds of participants had attained a university degree (66.8%) with the remaining having received a certificate or diploma (14.2%), or a school education (19%).

Design

The current study utilised a cross-sectional, correlational, web-based design where participants completed an online survey. Hierarchical multiple regressions were used to test the relationship between early adaptive schemas and romantic relationship quality. The 14 early adaptive schemas were entered as the predictor variables and the relationship quality variables of relationship satisfaction and sexual satisfaction were entered separately as outcome variables. Consistent with previous relationship research, the following covariates were controlled for across each analysis: age, gender, relationship duration, presence of perceived stressors, and dependants within the home (e.g., Erol & Orth, 2014; Hilpert et al., 2016; Yoo et al., 2014).

Measures

Demographic Questions

Demographic information included age, biological sex, sexual orientation, romantic relationship status, relationship duration, presence of perceived physical or mental

health stressors for the individual or their romantic partner, and whether dependants were living within the home.

Early Adaptive Schemas

The 56-item Young Positive Schema Questionnaire (YPSQ; Louis et al., 2018) provided a measure of 14 early adaptive schemas. Items were rated on a 6-point Likert scale, (1) *completely untrue of me* to (6) *describes me perfectly*. Example items include “I know I can depend on the people closest to me to always be there for me” (Emotional Fulfilment) or “I can be a good person and, at the same time, consider my own needs to be as important as those of others” (Self-Care). Scores were summed for each schema, with higher scores indicating greater presence of each schema. A total early adaptive schema score was obtained by summing the 14 early adaptive schema scores. In accordance with the standards outlined by Nunnally and Bernstein (1994), the YPSQ demonstrated acceptable psychometric properties, both when developed (Louis et al., 2018) and within the current study ($\alpha = 0.67\text{--}0.91$).

Relationship Satisfaction

A global measure of relationship satisfaction was measured using the 16-item Couples Satisfaction Index (CSI-16; Funk & Rogge, 2007). The CSI-16 was developed using item response theory and has demonstrated excellent psychometric properties (Graham et al., 2011). Cronbach’s alpha of 0.97 was observed within the current sample. One item rated overall relational happiness on a 7-point Likert scale from (0) *extremely unhappy* to (6) *perfect*. Six items rated how participants felt about their relationship on a 6-point Bipolar scale, using polarised adjectives, such as (0) *miserable* (5) *enjoyable*. Nine items were rated on a 6-point Likert scale, ranging between (0) *not at all true* to (5) *completely true*. Scores were summed, with higher scores indicating greater relationship satisfaction. Possible scores ranged from 0 to 81. The CSI-16 has been used to differentiate between distressed and non-distressed relationships, with total scores lower than 51.5 indicating distress (Funk & Rogge, 2007).

Sexual Satisfaction

The Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995) is a 5-item measure of sexual satisfaction. Items were rated on a 7-point Bipolar scale (1) to (7): “good-bad, pleasant-unpleasant, positive-negative, satisfying-unsatisfying, valuable-worthless”. Scores ranged from 5 to 35, with higher scores indicating greater sexual satisfaction. The GMSEX is frequently used and has demonstrated excellent psychometric properties (Mark et al., 2014). Internal consistency of 0.94 was observed in the current sample, with test-retest reliabilities of 0.84 observed at two-week follow-up (Lawrance & Byers, 1995), 0.78 at three-month follow-up, and 0.61 at 18-month follow-up (Byers & MacNeil, 2006).

Procedure

Ethical approval was granted by a university human research ethics committee. Participants were recruited via social networking websites prior to being screened for eligibility. Volunteers who followed the survey link were informed of the research purpose and invited to complete the relevant. Upon completion of the questionnaire, participants were provided an opportunity to enter a prize draw to win one of four \$50 gift vouchers. Participants provided an email address via an external survey to maintain confidentiality.

Data Analysis

The assumption of linearity and normality were met, as visual inspection of standardised residuals revealed probability plots followed diagonal lines and histograms approximately followed normal bell curves (Field, 2018). Durbin-Watson statistic scores were approximately two, indicating independence of residuals (Field, 2018). No issues were observed with collinearity (i.e., $VIF < 10$, $Tolerance > 0.2$). Multivariate outliers that exceeded critical χ^2 value ($\alpha = 0.01$) were examined removed and excluded from hypotheses testing ($n = 48$, 5%; Tabachnick et al., 2019). Cook's distance was below one for all cases (Cook & Weisberg, 1982) and no leverage values greater than 0.2 were observed, indicating no highly influential points (Field, 2018). Casewise diagnostics revealed 95% of all cases fell within ± 2 SDs. Cases outside ± 3 SDs were removed after being assessed and deemed to be outside of the normal distribution ($n = 17$; 1.79%).

The assumption of homogeneity was violated, as identified by a visual inspection of the scatterplot data of ZRED against ZRESID, which revealed decreased funnelling (Field, 2018). Heteroscedasticity remained when examining subsamples restricted by age range, relationship duration, country of residence, and subsamples with and without the presence of stressors, and children. This suggests that the heterogeneity of the sample did not solely influence heteroscedasticity, which was not surprising given the complexity of romantic relationships in combination with the large sample size. Large sample sizes have been found to exacerbate problems produced by heteroscedasticity (Hayes, 1996; Long & Ervin, 2000). To account for this violation, heteroscedasticity-consistent standard error (HCSE) estimator of ordinary least squares (OLS) parameter estimates were examined (Hayes & Cai, 2007; Long & Ervin, 2000).

The HCSE method was deemed more appropriate than weighted least squares, given that it has good statistical power and does not require prior knowledge of the form of heteroscedasticity (MacKinnon & White, 1985). No statistical differences emerged between OLS regressions and those using HCSE estimators, specifically HC3 model created by Hayes and Cai (2007). Thus, the OLS results were retained for ease of interpretation. Lastly, the final sample ($n = 876$) was deemed acceptable in accordance with Faul et al.'s (2007) empirical estimates required for 0.80 power ($\alpha = 0.05$).

Results

Preliminary Analysis

Statistical analyses were conducted using IBM SPSS program (Version 28.0). Mean scores, standard deviations, and zero-order correlations between study variables are presented in Table 1. As anticipated, having greater levels of early adaptive schemas was significantly positively associated with greater levels of relationship and sexual satisfaction.

Main Analyses

Relationship Satisfaction

Hierarchical multiple regression was used to test whether greater early adaptive schemas scores significantly predicted greater relationship satisfaction. Results are presented in Table 2. The first block included age and sex, which significantly accounted for 4% variability in relationship satisfaction, $R^2 = 0.04$, $F(2, 873) = 18.88$, $p < 0.001$. The second block included the addition of relationship duration, presence of stressors for either individual or their romantic partner, and dependants living within the home, which accounted for an additional 2% of variance of relationship satisfaction, $\Delta R^2 = 0.02$, $\Delta F(3, 870) = 6.48$, $p < 0.001$. In the final model, the addition of 14 early adaptive schemas significantly accounted for an additional 28% of the variance of relationship satisfaction, $\Delta R^2 = 0.28$, $\Delta F(14, 856) = 25.38$, $p < 0.001$. In combination, all 19 variables explained 34% of the variance of relationship satisfaction, $R^2 = 0.34$, $F(19, 856) = 22.94$, $p < 0.001$. By Cohen's (1988) conventions, a combined effect of this magnitude can be considered "large" ($f^2 = 0.51$).

Emotional Fulfilment, Social Belonging, Self-Compassion, and Self-Care were the only early adaptive schemas that significantly contributed to the observed variance in relationship satisfaction scores. Emotional Fulfilment emerged as the strongest predictor which explained 11% of significant unique variance ($sr^2 = 0.11$), followed by Self-Care, Self-Compassion, and Social Belonging which accounted for approximately 1% of significant unique variance each. Unexpectedly, the impact of Social Belonging and Self-Compassion were in the negative direction. This was an opposite finding than expected which indicates the possible presence of suppression in the model. Therefore, these findings should be interpreted with caution. The remaining early adaptive schemas did not significantly contribute to variance in relationship satisfaction scores. Overall, these findings suggest the early adaptive schemas of Emotional Fulfilment and Self-Care predict greater relationship satisfaction.

Table 1 Summary of means, standard deviations, and zero-order correlations between study variables ($N = 941$)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Relationship satisfaction	64.42	14.84	-																
2. Sexual satisfaction	28.79	6.71	0.67**	-															
3. Emotional fulfillment	22.68	4.77	0.51**	0.34**	-														
4. Social belonging	19.89	5.49	0.19**	0.17**	0.54**	-													
5. Emotional openness	17.44	4.31	0.26**	0.22**	0.50**	0.46**	-												
6. Success	24.17	4.20	0.15**	0.11**	0.36**	0.43**	0.26**	-											
7. Self-reliance	14.96	2.56	0.13**	0.09**	0.28**	0.41**	0.23**	0.64**	-										
8. Developed self	15.10	3.01	0.13**	0.06	0.33**	0.31**	0.23**	0.38**	0.51**	-									
9. Stable attachment	17.44	4.31	0.25**	0.11**	0.58**	0.51**	0.30**	0.42**	0.42**	0.39**	-								
10. Optimism	20.17	5.54	0.19**	0.10**	0.44**	0.51**	0.37**	0.48**	0.56**	0.41**	0.62**	-							
11. Empathic consideration	17.73	3.19	0.14**	0.10**	0.24**	0.25**	0.25**	0.25**	0.30**	0.27**	0.31**	0.31**	-						
12. Self-control	16.27	3.86	0.17**	0.09**	0.34**	0.33**	0.26**	0.53**	0.52**	0.32**	0.39**	0.36**	0.35**	-					
13. Self-directedness	17.08	3.81	0.16**	0.14**	0.34**	0.37**	0.26**	0.44**	0.47**	0.33**	0.48**	0.51**	0.37**	0.50**	-				
14. Realistic expectations	16.60	4.01	0.12**	0.09**	0.32**	0.30**	0.24**	0.22**	0.28**	0.25**	0.38**	0.47**	0.40**	0.21**	0.47**	-			
15. Self-compassion	11.21	3.49	0.12**	0.07*	0.37**	0.41**	0.29**	0.38**	0.39**	0.27**	0.27**	0.49**	0.62**	0.32**	0.33**	0.54**	-		
16. Self-care	13.67	2.80	0.28**	0.21**	0.45**	0.37**	0.30**	0.41**	0.40**	0.30**	0.43**	0.44**	0.24**	0.37**	0.49**	0.47**	0.49**	-	
17. Total EAS	244.41	36.61	0.31**	0.21**	0.69**	0.71**	0.55**	0.67**	0.67**	0.55**	0.74**	0.78**	0.51**	0.62**	0.70**	0.61**	0.71**	0.65**	-

M and *SD* are presented for the final sample ($N = 876$). *EAS* early adaptive schemas

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Table 2 Hierarchical multiple regression results examining early adaptive schemas and relationship satisfaction ($N=876$)

Variable	<i>B</i>	95% CI for <i>B</i>		<i>SE of B</i>	β	R^2	ΔR^2
		<i>LL</i>	<i>UL</i>				
Step 1						0.04***	0.04***
Constant	74.57***	71.14	77.99	1.75			
Age	-0.30***	-0.40	-0.20	0.05	-0.19***		
Sex	-1.50	-3.52	0.52	1.03	-0.05		
Step 2						0.06***	0.02***
Constant	74.06***	70.06	78.06	2.04			
Age	-0.32***	-0.47	-0.17	0.07	-0.20***		
Sex	-1.61	-3.62	0.40	1.03	-0.05		
Relationship duration	0.17	-0.01	0.34	0.09	0.09		
Stressors	2.59*	0.58	4.59	1.02	0.08*		
Dependants	-3.96**	-6.32	-1.61	1.20	-0.12**		
Step 3						0.34***	0.28***
Constant	28.63***	21.23	36.03	3.77			
Age	-0.20**	-0.33	-0.07	0.07	-0.13**		
Sex	-0.03	-1.84	1.79	0.93	-0.001		
Relationship duration	-0.07	-0.22	0.09	0.08	-0.03		
Stressors	1.40	-0.34	3.15	0.89	0.05		
Dependants	-3.70***	-5.73	-1.67	1.03	-0.11***		
Emotional fulfilment	1.54***	1.29	1.79	0.13	0.49***		
Social belonging	-0.30**	-0.50	-0.10	0.10	-0.11**		
Emotional openness	0.18	-0.05	0.42	0.12	0.05		
Success	-0.09	-0.37	0.19	0.14	-0.03		
Self-reliance	0.12	-0.38	0.62	0.25	0.02		
Developed self	0.06	-0.28	0.39	0.17	0.01		
Stable attachment	0.04	-0.24	0.31	0.14	0.01		
Optimism	0.12	-0.13	0.36	0.12	0.04		
Empathetic consideration	0.27	-0.03	0.57	0.15	0.06		
Self-control	0.05	-0.23	0.33	0.14	0.01		
Self-directedness	0.06	-0.24	0.36	0.15	0.02		
Realistic expectation	-0.07	-0.36	0.21	0.15	-0.02		
Self-compassion	-0.44*	-0.79	-0.09	0.18	-0.10*		
Self-care	0.52**	0.13	0.90	0.20	0.10**		

CI confidence interval, *LL* lower limit, *UL*=upper limit

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Sexual Satisfaction

Hierarchical multiple regression was used to test whether greater early adaptive schemas scores significantly predicted greater sexual satisfaction. Results are

Table 3 Hierarchical multiple regression results examining early adaptive schemas and sexual satisfaction ($N=876$)

Variable	<i>B</i>	95% CI for <i>B</i>		<i>SE of B</i>	β	R^2	ΔR^2
		<i>LL</i>	<i>UL</i>				
Step 1						0.05***	0.05***
Constant	33.49***	0.79	31.95	35.03			
Age	-0.13***	0.02	-0.18	-0.08	-0.18***		
Sex	-1.39**	0.46	-2.30	-0.48	-0.10**		
Step 2						0.05	0.004
Constant	32.69***	0.93	30.88	34.51			
Age	-0.10**	0.03	-0.16	-0.03	-0.14**		
Sex	-1.37**	0.47	-2.28	-0.45	-0.10**		
Relationship duration	-0.06	0.04	-0.14	0.02	-0.07		
Stressors	0.49	0.46	-0.42	1.40	0.04		
Dependants	0.04	0.55	-1.03	1.11	0.003		
Step 3						0.20***	0.15***
Constant	17.11***	1.87	13.43	20.79			
Age	-0.07*	0.03	-0.14	0.00	-0.10*		
Sex	-0.76	0.46	-1.66	0.15	-0.05		
Relationship duration	-0.11**	0.04	-0.19	-0.04	-0.13**		
Stressors	0.25	0.44	-0.62	1.11	0.02		
Dependants	0.16	0.51	-0.85	1.17	0.01		
Emotional fulfilment	0.42***	0.06	0.29	0.54	0.30***		
Social belonging	0.02	0.05	-0.08	0.12	0.02		
Emotional openness	0.11	0.06	0.00	0.23	0.07		
Success	0.04	0.07	-0.10	0.18	0.03		
Self-reliance	-0.01	0.13	-0.26	0.24	-0.004		
Developed self	-0.01	0.09	-0.18	0.16	-0.004		
Stable attachment	-0.10	0.07	-0.24	0.03	-0.06		
Optimism	0.02	0.06	-0.10	0.14	0.01		
Empathetic consideration	0.08	0.08	-0.07	0.23	0.04		
Self-control	-0.06	0.07	-0.20	0.08	-0.04		
Self-directedness	0.14	0.08	0.00	0.29	0.08		
Realistic expectation	0.03	0.07	-0.11	0.17	0.02		
Self-compassion	-0.29**	0.09	-0.47	-0.12	-0.15**		
Self-care	0.26**	0.10	0.07	0.45	0.11**		

CI confidence interval, *LL* lower limit, *UL*= upper limit

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

presented in Table 3. The first block included age and sex, which significantly accounted for 5% variability in sexual satisfaction, $R^2=0.05$, $F(2, 873)=22.68$, $p < 0.001$. In the second block, the addition of relationship duration, presence of stressors (for either individual or their romantic partner), and dependants living

within the home was non-significant, $\Delta R^2 = 0.004$, $\Delta F(3, 870) = 1.13$, $p = 0.337$. In the final model, the addition of 14 early adaptive schemas significantly accounted for an additional 15% of the variance of sexual satisfaction, $\Delta R^2 = 0.15$, $\Delta F(14, 856) = 11.15$, $p < 0.001$. In combination, all 19 variables explained 20% of the variance of sexual satisfaction, $R^2 = 0.20$, $F(19, 856) = 11.20$, $p < 0.001$. By Cohen (1988) conventions, a combined effect of this magnitude can be considered “medium” ($f^2 = 0.25$).

The only significant predictors were Emotional Fulfilment, Self-Compassion, and Self-Care. Emotional Fulfilment was the strongest predictor and accounted for 4% of significant unique variance ($sr^2 = 0.04$). Both Self-Compassion ($sr^2 = 0.01$) and Self-Care ($sr^2 = 0.01$) accounted for 1% each of significant unique variance. Unexpectedly, the impact of Self-Compassion was in the negative direction. This indicates the presence of suppression in the model and should be interpreted with caution. The remaining early adaptive schemas did not significantly contribute to variance in sexual satisfaction scores. Overall, findings suggest Emotional Fulfilment and Self-Care predict greater sexual satisfaction.

Discussion

This study is the first to examine the role of early adaptive schemas in understanding adult sexuality and relationships. By elucidating the role of early adaptive schemas, this study provides an important contribution to our understanding of schema theory. Findings partially supported hypotheses that higher early adaptive schemas scores would predict greater relationship quality, as measured by greater relationship (H_1) and sexual satisfaction (H_2). Those who endorsed higher levels of early adaptive schemas overall (total presence of early adaptive schemas) reported greater levels of relationship and sexual satisfaction in their romantic relationships. Interestingly, when examined at the individual schema level, only two of the fourteen early adaptive schemas predicted greater relationship and sexual satisfaction. These included Emotional Fulfilment and Self-Care. Emotional Fulfilment emerged as the strongest predictor which explained a substantial amount of variance in both relationship satisfaction and sexual satisfaction. In contrast, Self-Care accounted for a small portion of greater relationship quality. Unexpectedly, and in the opposite direction than anticipated, Social Belonging and Self-Compassion predicted lower relationship quality, although findings only explained 1% of the variance. Findings demonstrated that early maladaptive schemas are uniquely associated with romantic relationship quality.

Emotional Fulfilment

Emotional Fulfilment emerged as the strongest and most meaningful early adaptive schema to predict relationship quality, with greater Emotional Fulfilment found to increase both relationship and sexual satisfaction. That is, endorsing beliefs that one is

loved, cared for, and valued by one's spouses increased overall relational happiness and security in addition to positive evaluations regarding sexual connection.

Consistent with notions outlined in schema theory (Arntz & Jacob, 2017; Young et al., 2003) and elaborated by Lockwood and Perris (2012), individuals who endorsed higher Emotional Fulfilment likely had their core emotional needs for security and safety adaptively met in loving, nurturing family environments. These early experiences may have been internalised and manifested as beliefs that one is loved, cared for, and valued by others. In the context of romantic relationships, individuals likely believe they are inherently loveable and desirable regardless of their human flaws. They may depend on their spouse and trust that their core emotional needs for nurturance, empathy, and safety will be met. Collectively, this suggests that individuals who endorse greater levels of Emotional Fulfilment would be comfortable seeking support from their spouse. Seeking support may in turn facilitate more secure and satisfying attachment bonds.

It is plausible to assume when measuring relationship outcomes, that similar positive associations would exist between early adaptive schemas as those observed within securely attached adults. For instance, attachment security is integral to relationship functioning and has been associated with high levels of interpersonal trust and, in turn, high relationship quality, at the level of the individual and the dyad (Givertz et al., 2013). This finding has been further supported by Hadden et al.'s (2014) meta-analysis ($N=1449$) which found a moderate effect size between secure attachments and greater levels of relationship satisfaction. Developing a secure attachment with a spouse appears to provide an emotional regulatory system (Simpson & Rholes, 2017), as individuals seek proximity and comfort from their spouse when experiencing distress, and in turn, receive support to facilitate coping and alleviate distress (Pietromonaco & Beck, 2015).

Interestingly, self-report, observational, and experimental data using both individual and dyadic data, demonstrate that attachment security positively influences perceptual, physiological, and behavioral responses within relationships (see Mikulincer & Shaver, 2012 for review). For instance, secure individuals appear to perceive partner behaviour in a more positive light, regardless of whether their partner's actions were actually positive (Overall et al., 2015). Taken together, these findings suggest Emotional Fulfilment, as an early adaptive schema, may enhance a sense of closeness, safety, and security with one's spouse, which is indicative of a secure attachment as outlined within attachment theory (Bowlby, 1979; Cassidy & Shaver, 2016). Considering that gratifying and meaningful relationships meet basic innate human needs, it is understandable that Emotional Fulfilment emerged as the most important early adaptive schema within the current sample. Collectively, findings suggest clinicians ought to evaluate and strive to strengthen this early adaptive schema in couples' therapy.

Other Early Adaptive Schemas

The following findings should be interpreted with caution as only an additional 1% of the variance was explained by each of the remaining significant early adaptive schemas.

Self-Care

The current study revealed that Self-Care predicted greater relationship quality. That is, considering one's own needs as equally important to those of others and investing time in caring for oneself contributed to more rewarding and enjoyable relational and sexual experiences with one's spouse. These findings align with the tenets of schema theory. That is, individuals who had had their core needs adaptively met in childhood are more likely to function as healthy adults. In relation to the schema of Self-Care, these individuals have realistic expectations regarding their own needs and the needs of others. By implementing healthy boundaries, such individuals may fulfil their obligations across roles (e.g., partner, parent, work) whilst equally caring for their wellbeing.

The findings from the current study are consistent with the theory that the more realistic expectations and self-care one has, the more one may be able to self-regulate and manage the demands of an intimate relationship (Yarnell & Neff, 2013). This may enable individuals to meet their own emotional needs, be attuned, and responsive to their partner (Neff & Beretvas, 2013). It is also possible that such individuals are able to ask for support from their partner, after accurately considering their own coping resources. Whilst Emotional Fulfilment appeared to be the strongest predicting factor of relationship quality, Self-Care also provides a positive standalone contribution to relationship functioning. This suggests that therapies and practices intending to increase relationship quality should consider empowering individuals to learn and adopt healthy self-care behaviours.

Self-Compassion and Social Belonging

Two unexpected findings emerged within the current study. Firstly, findings revealed individuals endorsing greater levels of the early adaptive schema of Self-Compassion predicted lower levels of relationship and sexual satisfaction. That is, individuals who believed they should be forgiven easily and should not suffer for their failures or mistakes were less likely to report being satisfied with their emotional and sexual relationship. Secondly, findings revealed Social Belonging also significantly reduced relationship satisfaction, although no association was observed between Social Belonging and sexual satisfaction. This suggests that perceiving that you are accepted, included, and connected with others reduced positive perceptions of happiness and emotional intimacy within the romantic relationship.

These unexpected findings should be interpreted with caution. Several early adaptive schemas were observed to have moderate to strong positive correlations (r range = 0.21 to 0.64; although no multicollinearity was evidenced). Thus, it is possible that these small negative findings may indicate suppression within the model. It is also important to consider that intimate relationships do not exist in a vacuum. As such, it is equally possible uncontrolled factors may have influenced the observed relationships. For example, it is plausible that differences may emerge from idiosyncratic combinations of early adaptive schemas and early maladaptive schemas. In accordance with schema theory (Young, 1990; Young et al., 2003), both likely interact and influence global perceptions about ones' spouse

and intimate relationship. Differences in personality, temperament, and coping behaviours may further complicate findings (see Young et al., 2003 for additional information). Future research may consider measuring these variables concurrently to increase our understanding of schema theory and relationship dynamics in adult romantic relationships.

Self-Compassion The observed relationship between greater Self-Compassion and lower relationship quality was unexpected and in contrast to previous research. For instance, self-compassion has been associated with more acceptance of one's romantic partner, greater relationship satisfaction, and healthier romantic relationships (Neff & Beretvas, 2013). The difference in findings observed between previous research and the current study may be explained by the way in which self-compassion was measured. Previous research has measured self-compassion using the 26-item Self-Compassion Scale (Neff, 2003), which has multiple factors (self-kindness versus self-judgement; common humanity versus isolation; mindfulness versus over-identification). In contrast, the current study used three items. Considering the depth of self-compassion as a construct, and the small number of items used in the YPSQ, the early adaptive schema of Self-Compassion does not appear to capture self-compassion as conceptualised within the wider positive psychological literature. Moreover, it could be argued the YPSQ may measure self-forgiveness; at least at face-value. Self-forgiveness has been associated with self-excusing or self-justification, in which one does not accept responsibility for their transgressions. The acceptance of responsibility has been hypothesised as the key differentiating factor between pseudo versus genuine self-forgiveness (Wohl & McLaughlin, 2014), which is important in relationship contexts. Given that the YPSQ does not consider the acceptance of responsibility, it is difficult to ascertain the latent variable being assessed. Future research should further examine the relationship between the early adaptive schema of Self-Compassion and other more comprehensive measures to elucidate the underlying construct and limit confusion when drawing conclusions.

Social Belonging To explain the unexpected association between greater Social Belonging and lower relationship satisfaction, it may be that those individuals with positive beliefs about their ability to fit in and be accepted have larger strong social convoys. Having a larger social convoy may mean individuals obtain support from others, rather than from within the romantic relationship (Davis & Affi, 2014). A study by Julien and Markman (1991) found discussing relationship issues with others was associated with reduced marital quality. Consistent with this notion, further research has revealed females in relationships were more justified and less willing to compromise on issues relating to their relationship when they had greater connections and support from others, such as friends, family, and acquaintances (Klein & Milardo, 2000). As individuals have their needs met elsewhere, it may cause tension or devaluing of the relationship, possibly reducing relationship satisfaction (see Interdependence Theory; Arriaga, 2013). In line with this, Kislew (2020) found individuals who were high in social satisfaction from friends

reported lower desire to seek a romantic relationship and considered friendship as more important. Whilst this was observed in singles, it provides evidence that some of the assumed responsibilities of the relationship can be transferred to ones' networks of friends (Bellotti, 2008; Fileborn et al., 2015). Taken together, endorsing greater levels of social belonging may reduce relationship satisfaction, however, future research is needed to understand these complex associations.

Non-Significant Early Adaptive Schemas

Surprisingly, the remaining 11 early adaptive schemas did not predict greater relationship quality within the current sample. The YPSQ is a new measure that has not yet been validated in couples. Participants may have interpreted items differently than anticipated. Moreover, items were not specific to one's romantic relationship. To illustrate, the YPSQ assessed participants early adaptive schemas in the context of social networks (i.e., "I usually fit in with others") or parental relations (i.e., "I have been able to establish a life of my own and am not overly involved with my parents and their problems"). Findings may have differed if participants were asked to reflect on their spouse specifically, in contrast to their broader social context. It is also possible that the associations between these 11 early adaptive schemas and relationship quality may be indirect in nature. For instance, the effect on relationship quality may be mediated through other factors such as, wellbeing, communication, or conflict resolution skills. Additional research is required to further understand the complex association between early adaptive schemas and relationship quality.

Early Adaptive Schemas as a Positive Psychology Construct

Taking a broad perspective, a key finding from the present study was that early adaptive schemas uniquely influenced relationship quality. This is important as Louis et al. (2018) found early adaptive schemas had unique predictive validity for wellbeing, over and above early maladaptive schemas. Taken together, these findings indicate both early adaptive and early maladaptive schemas may need to be considered concurrently to adequately capture couple functioning. This postulation is consistent with the wider positive clinical psychology literature (Johnson & Wood, 2015), which acknowledges both positive and negative constructs should be targeted as each interacts to influence mental health and functioning (Wood & TARRIER, 2010). By including early adaptive schemas into traditional schema therapy for couples, clinicians may expand the focus of therapy from reducing distress to also include supporting couples flourishing. This balanced approach facilitates a more holistic approach to assessment and treatment by placing equal value on couples' strengths and weaknesses. Overall, the present findings provide a step towards enhancing our understanding of early adaptive schemas in intimate relationships.

The findings that only some early adaptive schemas are important for relationship quality is consistent with the patterns observed within the early maladaptive schema literature. For instance, Esmaili et al. (2016) found only three early maladaptive

schemas significantly predicted marital satisfaction scores. Similarly, Hashemian et al. (2015) found four early maladaptive schemas significantly predicted lower sexual satisfaction scores. Across these two studies, early maladaptive schemas collectively explained 26% and 17% of the variance in relationship and sexual satisfaction scores, respectively. This previous research aligns closely with the current findings, in which early adaptive schemas accounted for 28% of relationship satisfaction and 15% of sexual satisfaction scores.

Taken together, findings indicate that specific early adaptive schemas may be more important within intimate relationships than others. In addition, early adaptive schemas appear to have a similar impact on relationship quality as early maladaptive schemas, although in the positive direction. That is, endorsing early adaptive schemas appears to increase relationship quality as much as endorsing early maladaptive schemas appears to reduce relationship and sexual satisfaction. This strengthens the argument that an equal emphasis should be placed on both adaptive and maladaptive schemas in therapeutic settings.

Clinical Implications

Collectively, the present findings indicate that early adaptive schemas are important factors that have a unique contribution on relationship and sexual satisfaction. The implications for relationship theory and practice are potentially quite large. Understanding relationship functioning through a schema lens offers clinicians a road map to support couples to meet basic emotional needs, create secure bonds, and experience satisfying and meaningful connections.

In relation to schema therapy for couples (i.e., Atkinson & Perris, 2020; Simone-DiFrancesco et al., 2015), the addition of early adaptive schemas may provide clinicians with strengths that may be used therapeutically to facilitate flourishing within the couple. A central goal of traditional schema therapy for couples is to foster consistent patterns of secure connection to facilitate bonding between spouses (Atkinson & Perris, 2020). Currently, this is achieved by helping individuals to challenge unhelpful schemas and adopt healthier coping styles. This process may be more effective if early adaptive schemas were included within the therapeutic process. For instance, targeting both early adaptive and early maladaptive schemas concurrently may bolster psychological and coping resources, through promoting more functional perspectives, increased psychological flexibility, and healthier coping behaviours within the dyad (Arntz & Jacob, 2017; Atkinson & Perris, 2020).

Couples may be more equipped to manage relational difficulties in an emotionally conducive manner, thereby, providing greater opportunities for corrective emotional experiences. These experiences may empower couples to meet each other's core relational needs in a caring, functional, and mutually responsive manner (Atkinson & Perris, 2020). Affirming experiences promote greater relational satisfaction, commitment, and relationship maintenance (Davila et al., 2017; Ogolsky et al., 2017). Whilst these arguments are grounded in theoretical and empirical evidence, future research is required to confirm this hypothesis.

Limitations and Future Directions

The current findings must be considered in light of the following limitations. Firstly, despite our strong theoretical reasoning for conceptualising early adaptive schemas as the predictor variable that shape relationship quality, the results are correlational, and causation cannot be inferred. Secondly, the current analyses did not consider the role that partners may play when considering the relationship and sexual satisfaction of individuals. Studies have found that characteristics of both partners in a relationship may shape couples' relationship functioning (e.g., Hilpert et al., 2016; Riggs et al., 2011; Rodriguez et al., 2019). Future research may benefit from using dyadic research and a longitudinal approach, to confirm the direction of the relationship between variables and control for the contribution of partners. Thirdly, although we have demonstrated the utility of applying schema theory to the quality of romantic relationships, the current research does not inform the mechanisms influencing how early adaptive schemas impact relationship and sexual satisfaction in long-term relationships. Further empirical examination is required to determine the association between early adaptive schemas and other key measures of relationship functioning which may collectively influence relationship outcomes (e.g., attachment security, conflict resolution, problem-solving, responsiveness, empathy, relationship support, and forgiveness). Lastly, the present research focused on heterosexual couples who reported being in a committed relationship. Future research will need to examine whether the observed effects extend to other couples (i.e., same-sex couples) and remain cross-culturally. Despite limitations, the current study uniquely contributes to the relationship literature by providing a relatively comprehensive and theoretically driven model to explain how greater levels of early adaptive schemas enhance relationship and sexual satisfaction in romantic relationships.

Conclusion

The current study was the first to examine the role of early adaptive schemas in romantic relationship quality and provides theoretical support for early adaptive schemas to be included within schema therapy for couples. Findings indicate that the early adaptive schema of Emotional Fulfilment may enhance romantic relationship quality by increasing perceptions of relationship and sexual satisfaction. Specific early adaptive schemas appear to have differing effects on each component of relationship quality. Overall, findings suggest that clinicians may benefit from strengthening early adaptive schemas in therapeutic interventions.

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Declarations

Conflict of interest The authors report there are no competing interests to declare.

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