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Pronk, T.M.; Buyukcan-Tetik, A.; Iliás, M.; Finkenauer, C.

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Marriage as a training ground: Examining change in self-control and forgiveness over the first 4 years of marriage

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Tila M. Pronk¹, Asuman Buyukcan-Tetik²,
Marina M.A.H. Iliás³, and Catrin Finkenauer⁴

Abstract

Do partners' levels of self-control and forgiveness change over the course of marriage? Based on the idea that marriage may function as a training ground for these vital relationship abilities, we hypothesized that people increase their levels of self-control and forgiveness over time and that these developments take place simultaneously. We tested these predictions among 199 newlywed couples in the first 4 years of marriage, using a dyadic latent growth curves analysis. Confirming our hypotheses, results showed significant increases in self-control and forgiveness as well as a positive concurrent correlation between these variables. However, the developments of self-control and forgiveness were unrelated. So, while people become more self-controlled and forgiving over the course of a marriage, these developments do not coincide.

Keywords

Forgiveness, marriage, romantic relationships, self-control

¹ Tilburg University, The Netherlands

² Sabanci University, Turkey

³ VU University Amsterdam, The Netherlands

⁴ Utrecht University, The Netherlands

Corresponding authors:

Tila M. Pronk, Tilburg University, Cobbenhagenlaan 225, 5037 DB Tilburg, The Netherlands.

Email: t.pronk@uvt.nl

Asuman Buyukcan-Tetik, Faculty of Arts and Social Sciences, Sabanci University, Universite Cad. No: 27 Tuzla, 34956 Istanbul, Turkey.

Email: asumanbt@sabanciuniv.edu

Relationships, even the happiest, require people to deal with mild and severe dilemmas and difficulties. People who manage to overcome these obstacles may experience some of the many benefits that close relationships tend to bring in terms of happiness and health (e.g., Kiecolt-Glaser & Newton, 2001; Ross, Mirowsky, & Goldsteen, 1990). To do so, two abilities seem to be particularly important. Self-control enables people to override the tendency to act on destructive impulses and instead respond in line with long-term, relationship-oriented goals (e.g., Tangney, Baumeister, & Boone, 2004). It is therefore a key factor in protecting the relationship from interpersonal conflicts (e.g., Finkel & Campbell, 2001). If such conflicts nevertheless do arise, which is bound to happen now and then, the well-being of the relationship largely depends on one's ability to respond in a constructive, forgiving manner (McCullough et al., 1998). Self-control and forgiveness thus work together in helping partners navigate their relationships through difficult times (e.g., Finkel & Campbell, 2001; Pronk, Karremans, Overbeek, Vermulst, & Wigboldus, 2010; Tangney et al., 2004). But what happens to one's ability for self-control and forgiveness over the course of a romantic relationship? Do people increase these abilities, making them better apt to flourish in their relationship? And does the development of these two powerful relationship protective abilities coincide?

In the past decade, an increasing number of papers have shown that self-control helps people to be good relationship partners (for recent overviews, see Karremans, Pronk, & van der Wal, 2015; Pronk & Righetti, 2015). The rationale behind these findings is that self-control enables people to show constructive behavior toward their partner, even when they temporarily feel the impulse to behave destructively—a process that entails a *transformation of motivation* (Kelley & Thibaut, 1978, see also Pronk & Righetti, 2015). In facilitating this transformation process, self-control is considered a crucial factor in dealing with many relationship threats. For example, a higher level of self-control enables people to refrain from responding aggressively when provoked by their partner (Denson, DeWall, & Finkel, 2012; Finkel, DeWall, Slotter, Oaten, & Foshee, 2009). Also, it facilitates a wide range of constructive relationship behaviors like accommodation (Finkel & Campbell, 2001), faithfulness (Pronk, Karremans, & Wigboldus, 2011), and some forms of sacrifice (Findley, Carvallo, & Bartak, 2014; Pronk & Karremans, 2014). Possibly as a result of these benefits for relationship functioning, having high self-control elicits trust in relationship partners (Buyukcan-Tetik, Finkenauer, Siersema, Vander Heyden, & Krabbendam, 2015; Righetti & Finkenauer, 2011).

Forgiveness too is an important determinant of relationship functioning. When people feel hurt or offended by their partner, forgiveness helps to restore positive feelings, cognitions, and motivations toward the offender (McCullough et al., 1998). Since the experience of interpersonal conflicts is an intrinsic aspect of having a close relationship, forgiveness is essential for relationship stability (e.g., Fennell, 1993; Paleari, Regalia, & Fincham, 2005). In addition to safeguarding the relationship after an offense, forgiveness is associated with less psychological aggression (e.g., Eaton & Struthers, 2006), increased prorelationship motivation and behavior (such as a higher willingness to sacrifice; Karremans & Van Lange, 2004) and greater relationship satisfaction (Fincham, Paleari, & Regalia, 2002; Maio, Thomas, Fincham, & Carnelley, 2008; Paleari et al., 2005).

Past research thus demonstrated that people with higher levels of dispositional self-control and forgiveness are better able to function well in relationships than people with

lower levels (Karremans et al., 2015; Pronk & Righetti, 2015). A question that arises is to which extent the levels of self-control and forgiveness are fixed. Can people improve their self-control and forgiveness abilities? In the present research, we explore whether marriage may serve as a “training ground” for self-control and forgiveness.

Why self-control and forgiveness may increase over the course of a relationship

In the last decade, there has been increasing evidence showing that people around us influence our capacity for self-control—for the better or for the worse (for an overview, see Fitzsimons & Finkel, 2010). Self-control is generally impaired by social interactions that are particularly challenging or effortful, for example, because of poor social coordination (Finkel et al., 2006) or a difficult self-presentational goal (Vohs, Baumeister, & Ciarocco, 2005). Then again, self-regulatory capacities can also be bolstered by people in the environment—especially by close others. For example, if people are reminded of a significant other (e.g., their mother) whom they associate with a certain goal (e.g., academic achievement), this goal will be automatically activated, which may elicit behavior in line with that goal (Fitzsimons & Bargh, 2003). Also, once people set a certain goal for themselves, such as being more spontaneous, humorous, or disciplined, their partners may help them to reach that goal by treating them as if they already possess that specific trait or characteristic—a process called the “Michelangelo phenomenon” (e.g., Rusbult, Kumashiro, Kubacka, & Finkel, 2009).

The capacity for self-control is influenced by situational factors (such as time-constraint or cognitive load) but can also be studied as an individual difference variable (e.g., Tangney et al., 2004). According to research on the Michelangelo phenomenon, trait self-control may increase over the course of a relationship, but only when people indeed have the goal to achieve a higher level of self-control. Given the wide array of positive outcomes associated with high self-control (e.g., intellectual ability, work success, health, interpersonal functioning, see De Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012), it would make sense for people to—consciously or unconsciously—strive to possess more self-control. Indeed, evolutionary psychologists have argued that people innately aim to possess high self-control because it facilitates goal-directed behavior (e.g., Del Giudice, 2015) and serves adaptive functions, such as delaying gratification (e.g., Krebs, 2011). Additionally, self-control ensures resisting temptations, inhibition of antisocial and destructive impulses, and adjustment to social norms, thereby ensuring greater well-being and health (see Mischel, Shoda, & Rodriguez, 1989; Moffitt et al., 2011). Not surprisingly, self-control-related traits, such as being dependable and competent, are desirable and rated as attractive in relationship partners (Brumbaugh & Wood, 2013). It would thus make sense for people to strive for a higher level of self-control.

Given that self-controlled individuals tend to be good, solid relationship partners, we expect that partners affirm each other’s self-controlled behavior. Directly, they may affirm self-regulatory behavior, for example, by positively responding to exertion of self-control or by creating situations in which self-control pays off. Indirectly, people may benefit from each other’s successes in the domain of self-control. To illustrate, people may be inspired by witnessing their partner successfully demonstrating

self-regulatory behavior and reaching certain personal goals (e.g., adapting to a healthier lifestyle), which may motivate them to pursue those goals as well. Indeed, research on goal contagion demonstrated that individuals automatically adopt and pursue a goal when they witness another person showing behavior in line with this goal (Aarts, Gollwitzer, & Hassin, 2004). In fact, one of the proposed reasons why people with high self-control are successful in reaching their goals is because they prefer to surround themselves with others who are high in self-control and instrumental in their goal pursuit—a strategy that often pays off (vanDellen, Shah, Leander, Delose, & Bornstein, 2015).

Similarly, we expect that forgiveness increases over the course of a relationship. Research showed that people tend to become more forgiving toward others when commitment to the relationship increases (Finkel, Rusbult, Kumashiro, & Hannon, 2002; McCullough et al., 1998). So, when partners start valuing their relationship to a greater extent, increase their attachment to their partner, and adopt a long-term perspective to the relationship, they will become more motivated and likely to forgive. Forgiving tendencies may also increase because partners likely affirm each other's forgiving behavior, in direct and indirect ways. Forgiveness is conducive to a better relationship climate, with lower levels of aggression and a decreased risk of future transgressions (Wallace, Exline, & Baumeister, 2008). It also has overarching positive relational outcomes, such as higher relationship satisfaction, more commitment, and higher trust (e.g., Fincham & Beach, 2007; Gordon, Hughes, Tomcik, Dixon, & Litzinger, 2009; McCullough et al., 1998). In addition to benefitting the relationship, forgiveness improves psychological and even physical well-being of the individual (e.g., Karremans, Van Lange, Ouwerkerk, & Kluwer, 2003; Witvliet, 2001). The experience of these many positive effects in various domains may further stimulate people to display more forgiveness toward their partner over time.

We propose that close relationships provide an ideal context to train self-control and forgiveness, which may result in higher levels of these two abilities over time. In the current research, we also test the interdependency of the developments of self-control and forgiveness. Past research showed that self-control is related to forgiveness (Burnett et al., 2014; Righetti, Finkenauer, & Finkel, 2013; Pronk et al., 2010). The rationale behind these findings is that forgiveness, like self-control, requires a transformation process, in which negative feelings, cognitions, and motivations that are caused by an offense are reduced and inhibited to restore the positive relationship with the offender (McCullough et al., 1998). This process may be rather difficult, because humans evolved an automatic tendency to seek revenge, to protect themselves from further harm (McCullough, Kurzban, & Tabak, 2013). Self-control may facilitate the forgiveness process, for example, by decreasing the amount of ruminative thoughts people have about the offense (Study 4, Pronk et al., 2010) or by facilitating the cognitive reappraisal of the offense (Ochsner & Gross, 2005; Wilkowski, Robinson, & Troop-Gordon, 2010). Indeed, neurological research showed that the brain region involved in the regulation of affect through cognition is activated when people grant forgiveness (Ricciardi, Rota, Sani, Gentili, Gaglianese, Guazzelli, & Pietrini, 2013). Given the relationship between self-control and forgiveness, it may be the case that the potential developments of these factors are related: An increase in self-control over time may fuel an increase in forgiveness (and vice versa).

The present study

In the present study, we aimed to test the development of self-control and forgiveness in the first 4 years of marriage. To our knowledge, we are the first to propose that marriage can function as a training ground for self-control and forgiveness. We examined our hypotheses among newlywed couples because we expected a high level of relational commitment to be a prerequisite for our expected results. To show relationship constructive behavior, both motivation and ability are of the essence. Only when people have a long-term goal of staying in a relationship, they will devote resources to keeping their relationship well-functioning and lasting. Indeed, research showed that self-control is *only* related to forgiveness in relationships that are marked by a high level of commitment (van der Wal, Karremans, & Cillessen, 2014). So, we expected that, in order for people to train and increase their levels of self-control and forgiveness over time, they should be part of a relationship that is marked by a high level of relational commitment. Therefore, we tested our predictions among couples who had recently committed to their relationship in one of the most explicit ways: through marriage.

It is important to note that a high level of commitment does not necessarily mean that satisfaction with the relationship is high as well. Commitment is not only determined by relationship satisfaction but also by the quality of the best available alternative and the magnitude of the individual's investment in the relationship (Rusbult, 1980; see also Le & Agnew, 2003). In the current study, we used satisfaction with the relationship as well as commitment as control variables. We did so to ensure that the hypothesized increase in self-control and forgiveness is not due to people getting happier or more committed in their relationship. We also controlled for participants' age because people tend to become more forgiving (e.g., Cheng & Yim, 2008; Mullet, Houdbine, Laumonier, & Girard, 1998) and more conscientious as they get older (Hennecke, Bleidorn, Denissen, & Wood, 2014). So, we tested whether our predictions held when we controlled for commitment, relationship satisfaction, and participant age.

Based on the reasoning outlined above, we formulated the following hypotheses: (1) There is a positive correlation between self-control and forgiveness at every assessment wave (i.e., five time-points); (2) the levels of both self-control and forgiveness will increase over time; and (3) the development of self-control and forgiveness will be interdependent, resulting in a positive association between the slopes of these two variables. In addition to our main hypotheses, we explored whether and how partners influence each other's levels of self-control and forgiveness over time. Specifically, we investigated potential gender differences, and we examined whether the changes in self-control and forgiveness of one partner affect the changes in self-control and forgiveness of the other partner. Because both marital partners participated in this study, we were able to test questions related to relationship dynamics. Do partners learn from each other? Does a partner who has higher initial levels of self-control and forgiveness help the other partner to increase these abilities over time? Does one partner's increase in self-control and/or forgiveness fuel these developments in the other partner?

Method

Participants

We tested our predictions in a longitudinal study among 199 first-marriage newlywed couples (see also Bleidorn et al., 2016; Pollmann & Finkenauer, 2009). Participants were recruited via Dutch municipalities (a majority of 97.5% of all participating couples were Dutch), which provided the names and addresses of all couples who had gotten married in the previous month. Approximately 1 month after their marriage, couples were approached to participate in a study on “the longitudinal examination of the factors that contribute to marital and individual well-being.” Only couples who were married for the first time and who did not yet have children could participate. Of all couples who were approached, 19% agreed to participate (a response rate that resembles other studies recruiting participants from public records, e.g., Kurdek, 1991).

The first measurement took place within 3 months after marriage, followed by annual assessments for 4 years. Couples had been romantically involved on average for 5.77 years ($SD = 3.07$). Partners were aged between 25 and 40 with averages of 32.10 ($SD = 4.85$) for husbands and 29.23 ($SD = 4.29$) for wives.

Procedure

At each five phases of data collection, both partners filled out a questionnaire at home, which took approximately 90 min to complete. Among other measures, forgiveness, self-control, relationship satisfaction, and commitment were assessed, at every assessment waves (i.e., 5 times). A trained interviewer ensured that partners filled out the questionnaires independently, without interacting with one other. Apart from payment of €15 and a small gift after each data collection, participants received birthday cards every year and updates via the study website. At Time 2, 195 (99%) couples continued to participate; at Time 3, 190 couples participated; at Time 4, 157 couples participated; and at Time 5, 141 (71%) couples participated. The study started in 2006 and continued until 2010.

Material

We assessed forgiveness with the Dutch translation of the Tendency to Forgive Scale (Brown, 2004). This scale consisted of 4 items (e.g., “I tend to get over it quickly when my partner hurts my feelings”; “When my partner wrongs me, my approach is just to forgive and forget”; 1 = *completely disagree*, 5 = *completely agree*) and showed acceptable internal reliability ($\alpha_s = .65-.74$ across waves).

Self-control was assessed with the Dutch translation of the Self-Control Scale (Finkenauer, Engels, & Baumeister, 2005; Tangney et al., 2004). This scale consisted of 11 items (e.g., “I am good at resisting temptation”; “I am able to work effectively toward long-term goals”; 1 = *completely disagree*, 5 = *completely agree*) and showed acceptable internal reliability ($\alpha_s = .72-.78$ across waves).

We used relationship satisfaction and commitment as control variables. Relationship satisfaction was assessed using the Dutch translation of the Dyadic Adjustment Scale

(Spanier, 1976). This multidimensional scale is designed to measure various components of couple functioning, such as conflict management and expressions of love and affection (e.g., “Do you confide in your partner?”; “How often do you think things are going well between you and your husband?”; 1 = *never*, 5 = *all the time*). The scale displayed acceptable internal reliability (α s = .85–.89 across waves). Based on the commitment subscale of the Investment Model Scale, (Rusbult, Martz, & Agnew, 1998), we included 8 items to measure commitment level (e.g., “I want our relationship to last for a very long time”; “I am oriented toward the long-term future of my relationship”; 1 = *completely disagree*, 5 = *completely agree*). This scale demonstrated acceptable internal reliability (α s = .89–.94 across waves).

Results

Strategy of analysis

In our analysis, we used latent growth curve models (for a discussion on these models, see Curran, Obeidat, & Losardo, 2010). These models helped us to estimate the study variables’ average scores in the first year of the marriage (i.e., intercept) and average changes across time (i.e., slopes) using the data from all participants across all five study waves. In the dyadic version of these models, it is possible to examine the changes in both partners’ study variables in the same model and investigate the associations between their growth factors (i.e., intercepts and slopes; Peugh, DiLillo, & Panuzio, 2013).

We conducted our longitudinal analyses following three steps. First, we conducted univariate dyadic latent growth curve analyses for each study variable (i.e., self-control and forgiveness). These univariate models also helped us to find each variable’s best-fitting model for the multivariate dyadic latent growth curve analysis (e.g., Kim, Conger, Lorenz, & Elder, 2001). In our univariate dyadic latent growth curve models, we employed two parallel growth curves (i.e., one for husbands and one for wives) simultaneously, thereby considering the interdependence between partners’ initial levels and trajectories (Peugh et al., 2013). In these models, we also checked the equality of the means and variances of the intercepts and slopes across husbands and wives. Second, we ran multivariate¹ dyadic latent growth curve analysis and examined the associations between the growth factors (i.e., intercepts and slopes) of self-control and forgiveness. Last, we examined whether our results varied by the age, relationship satisfaction, and commitment level of participants. In the latent growth curve analyses, we coded our study waves (Time 1–Time 5) as 0–4. We conducted our analyses using Mplus version 7 (Muthén & Muthén, 2012). Having around 200 newlywed couples at the first assessment wave provided us adequate power for our analysis considering that the correlations stabilize when sample sizes approach 250 (Schönbrodt & Perugini, 2013).

Descriptive statistics and correlations

We present the descriptive statistics of self-control and forgiveness at each assessment wave in Table 1 and the correlations between self-control, forgiveness, relationship

Table 1. Average scores of study variables across study waves.

Model	Time 1	Time 2	Time 3	Time 4	Time 5
Self-control					
<i>M</i> (husbands)	3.28	3.30	3.30	3.30	3.31
<i>SD</i> (husbands)	.48	.47	.46	.48	.46
<i>M</i> (wives)	3.21	3.18	3.22	3.22	3.27
<i>SD</i> (wives)	.44	.43	.44	.47	.45
Forgiveness					
<i>M</i> (husbands)	3.46	3.61	3.59	3.63	3.67
<i>SD</i> (husbands)	.76	.63	.63	.71	.67
<i>M</i> (wives)	3.10	3.18	3.22	3.30	3.30
<i>SD</i> (wives)	.59	.62	.60	.59	.58

Table 2. Descriptive statistics and correlations.

Model	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Self-control (husbands)	3.30	.47	–						
2. Forgiveness (husbands)	3.59	.68	.29**	–					
3. Relationship satisfaction (husbands)	111.14	1.69	.39**	.29**	–				
4. Commitment (husbands)	4.55	.46	.15**	.16**	.56**	–			
5. Self-control (wives)	3.22	.44	–.06 [†]	.13**	.10*	.09*	–		
6. Forgiveness (wives)	3.21	.60	–.02	.11**	.09*	.04	.26**	–	
7. Relationship satisfaction (wives)	109.98	11.15	.09*	.18**	.36**	.30**	.23**	.21**	–
8. Commitment (wives)	4.64	.44	.05	.12**	.21**	.21**	.09*	.10*	.52**

Note. Descriptive statistics show the statistics across five waves of data. Exact *p* values are given in the text.

[†]*p* < .10; **p* < .05; ***p* ≤ .001.

satisfaction, and commitment in Table 2. Consistent with our first hypothesis, within-person correlations across five study waves showed significant positive associations between self-control and forgiveness for both husbands, $r = .29$, $p < .001$, and wives, $r = .26$, $p < .001$. Further examinations of these correlations at each assessment wave showed that self-control was positively related to forgiveness at all five assessment waves, for both husbands, $r_s = .20$ – $.35$, $p_s < .01$, and wives, $r_s = .21$ – $.31$, $p_s < .01$. For both genders, the moderate within-person correlation between self-control and forgiveness thus seemed to be robust and stable. For both genders, relationship satisfaction was positively associated with self-control ($r_{\text{husbands}} = .39$, $p < .001$ and $r_{\text{wives}} = .23$, $p < .001$) and forgiveness ($r_{\text{husbands}} = .29$, $p < .001$ and $r_{\text{wives}} = .21$, $p < .001$). Commitment also had positive associations with both self-control ($r_{\text{husbands}} = .15$, $p < .001$ and $r_{\text{wives}} = .09$, $p = .006$) and forgiveness ($r_{\text{husbands}} = .16$, $p < .001$ and $r_{\text{wives}} = .10$, $p = .002$).

Between-partner correlations showed a small, positive correlation between the forgiveness levels of husbands and wives, $r = .11$, $p = .001$. The association between the self-control levels of husbands and wives was marginally significant, $r = -.06$, $p = .08$. Additionally, there was a small, positive association between wives' self-control and

husbands' forgiveness, $r = .13, p < .001$. That is, husbands were somewhat more likely to forgive their wife when she had higher self-control (and vice versa). However, there was no significant association between husbands' self-control and wives' forgiveness level, $r = -.02, p = .59$. For both genders, there was a small, positive correlation between relationship satisfaction and partners' self-control ($r_{\text{husbands}} = .10, p = .004$ and $r_{\text{wives}} = .09, p = .01$) and partners' forgiveness ($r_{\text{husbands}} = .09, p = .01$ and $r_{\text{wives}} = .18, p < .001$), respectively. Thus, participants who had a partner with higher levels of self-control and forgiveness were more satisfied with their relationship. Although husbands' commitment was not related to wives' forgiveness level ($r = .04, p = .19$), it was related to wives' self-control level ($r = .09, p = .01$). Wives' commitment level, however, had no association with husbands' self-control ($r = .05, p = .19$) but a positive correlation with husbands' forgiveness ($r = .12, p < .001$).

Univariate dyadic latent growth curve analyses

We first conducted an unconditional latent growth curve analysis without any constraints for each study variable (Figure 1). Then, we tested the equality of means and variances of growth factors across gender. As presented in Table 3, we compared the nested models with equality constraints to the unconditional base model using chi-square difference tests. The results revealed that other than the means of intercepts, none of the growth factors varied across gender (i.e., chi-square difference tests were insignificant). Thus, in the final models for both self-control and forgiveness, we constrained variances of intercepts, means of slopes, and variances of slopes to be equal across gender.

Final univariate latent growth curve models had very good levels of fit indices: $\chi^2(39, N = 199) = 47.84 (p = .16)$, comparative fit index (CFI) = .99, and root mean square error of approximation (RMSEA) of .03 [90% CI = .00, .06] for self-control and $\chi^2(39, N = 199) = 34.30 (p = .68)$, CFI = 1.00, and RMSEA = .00 [90% CI = .00, .04] for forgiveness. Subsequent examinations of quadratic trajectories yielded no significant results. Parameters of the final linear models are presented in Table 4.² These results showed that husbands reported higher levels in both self-control and forgiveness than wives did in the first year of their marriage. Because husbands' and wives' slopes were constrained to be equal, we had only one slope for self-control and another one for forgiveness. Consistent with our second hypothesis, the results yielded that both variables showed significant increases over time. This increase was small ($d = .16$) for self-control but medium ($d = .44$) for forgiveness. Last, other than the variance of forgiveness, all variances were significant. Significant variances in intercepts indicated that some participants reported higher levels of self-control and/or forgiveness than others at the beginning of their marriage. Significant variance in self-control's slope showed that some participants experienced higher levels of increases in self-control over time than others.

Multivariate dyadic latent growth curve analysis

To examine the association between the trajectories of self-control and forgiveness, we combined the final univariate latent growth curve models reported earlier and

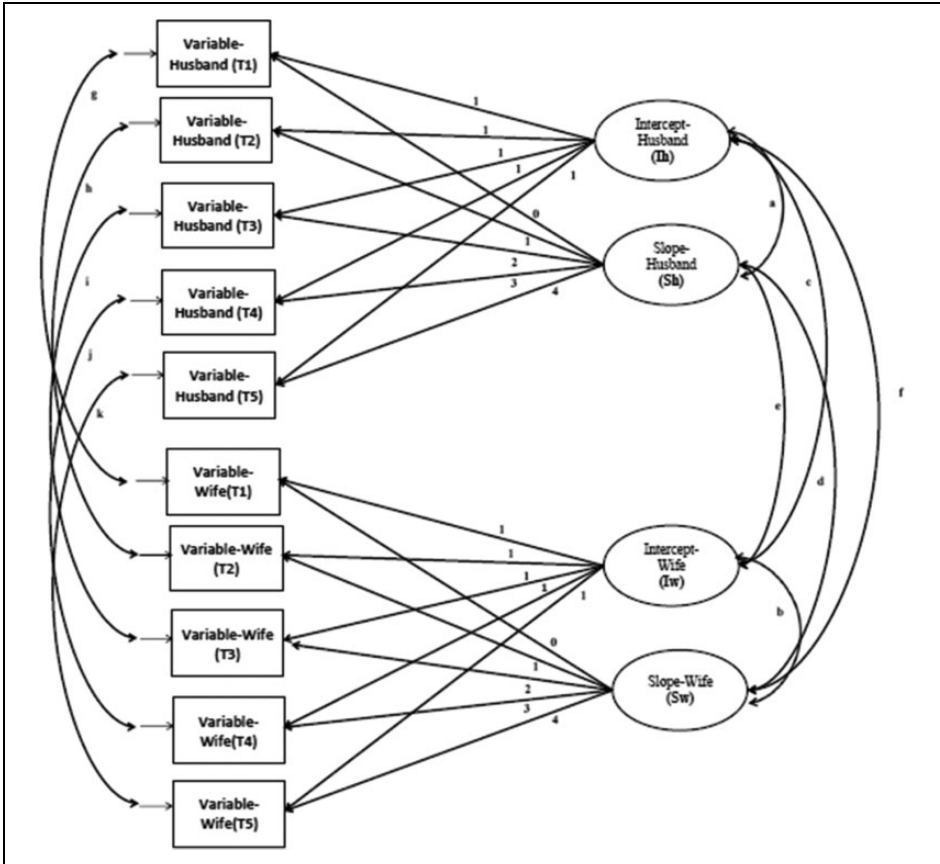


Figure 1. Univariate dyadic latent growth curve model. T1–T5 = Time 1–Time 5. Variable = Self-control or forgiveness in our univariate models. (a and b) Within-person intercept-slope association. (c) Cross-partner between-intercepts association. (d) Cross-partner between-slopes association. (e and f) Cross-partner intercept-slope association. (g to k) Cross-partner error associations.

investigated the associations between growth factors across variables. Due to a convergence problem, we had to set the insignificant variance in the slope of husbands’ forgiveness to zero and unconstrained its equality to variance in wives’ slope of forgiveness. This change did not lead to any significant difference in terms of model fit ($\Delta\chi^2 = 9.65, \Delta df = 7, p = .21$). The final multivariate latent growth curve model still had very good levels of fit indices, $\chi^2 (169, N = 199) = 185.27 (p = .19)$, CFI = .99, and RMSEA = .02 [90% CI = .00, .04].

As presented in Table 5, among 21 possible correlations (i.e., both within-person and cross-partner correlations) between growth factors, six correlations were significant. We first investigated the results of our third hypothesis (i.e., a positive correlation between the slopes of self-control and forgiveness). Contrary to our hypothesis, there was no significant association between changes in wives’ self-control and forgiveness

Table 3. Fit statistics for the univariate dyadic latent growth curve models.

Model	χ^2	df	p	CFI	RMSEA	$\Delta\chi^2$	Δdf	p
<i>Self-control models</i>								
Base	44.34	36	.16	.99	.03			
Equal intercepts across gender	48.60	37	.10	.99	.04	4.26	1.00	.04
Equal variances of intercepts across gender	45.98	37	.15	.99	.03	1.63	1.00	.20
Equal slopes across gender	44.35	37	.19	1.00	.03	0.01	1.00	.93
Equal variances of slopes across gender	45.62	37	.16	.99	.03	1.27	1.00	.26
<i>Forgiveness models</i>								
Base	33.81	36	.57	1.00	.00			
Equal intercepts across gender	77.15	37	<.001	.95	.07	43.34	1.00	<.001
Equal variances of intercepts across gender	34.03	37	.61	1.00	.00	0.22	1.00	.64
Equal slopes across gender	33.84	37	.62	1.00	.00	0.04	1.00	.85
Equal variances of slopes across gender	33.92	37	.61	1.00	.00	0.11	1.00	.74

Table 4. Growth factors of study variables in the univariate dyadic latent growth curve models.

Model	M	p	Var.	p
<i>Self-control</i>				
Husbands' intercept	3.28	<.001	.16	<.001
Wives' intercept	3.19	<.001	.16	<.001
Husbands' and wives' slope	.01	.03	.003	<.001
<i>Forgiveness</i>				
Husbands' intercept	3.51	<.001	.24	<.001
Wives' intercept	3.12	<.001	.24	<.001
Husbands' and wives' slope	.05	<.001	.00	.30

Note. Var. = variance. Based on the fit statistics in Table 3, variances of intercepts, means of slopes, and variances of slopes are set to be equal across gender in the models.

($r = .44$, ns). Because there was no variance in husbands' slope in forgiveness, we could not examine whether change in husbands' forgiveness was associated with their change in self-control.

Additionally, we explored whether partners' growth factors of self-control and forgiveness were related to each other. Results yielded some notable across-gender associations. For example, the results showed that the initial level of husbands' forgiveness was marginally related to wives' initial level of self-control ($r = .16$, $p = .06$). This suggests that husbands whose partner had higher levels of self-control tended to be more forgiving toward their partner in the first year of their marriage than husbands whose partner had lower levels of self-control. Furthermore, results showed that a change in husbands' self-control was negatively related to wives' forgiveness level at the beginning of marriage ($r = -.53$, $p \leq .001$). This indicates that husbands, who were not forgiven by their partners at the beginning of marriage, were more likely to increase their self-control over time. Last, changes in husbands' self-control and wives' forgiveness

Table 5. Associations between growth factors in the multivariate dyadic latent growth curve model.

Variable	1	2	3	4	5	6
<i>Self-control</i>						
1. Husbands' intercept	–					
2. Wives' intercept	–.11	–				
3. Husbands' slope	–.13	.14	–			
4. Wives' slope	–.03	–.09	–.02	–		
<i>Forgiveness</i>						
5. Husbands' intercept	.39 ^a	.16 ^b	–.09	.07	–	
6. Wives' intercept	.07	.30 ^a	–.53 ^a	.05	.11	–
7. Wives' slope	–.19	.02	.67 ^c	.44	–.04	–.42 ^d

Note. As explained in the text, because variance in husbands' slope of forgiveness was set to zero, we were not able to examine correlations with that growth factor.

^a $p \leq .001$.

^b $p = .06$.

^c $p = .07$.

^d $p = .01$.

were positively (albeit marginally) related to each other ($r = .67, p = .07$). This suggests that an increase in husbands' self-control was associated with a marginal increase in wives' forgiveness and vice versa.

Also, we examined the within-gender effects of intercepts (i.e., initial levels at the first year of marriage). Participants (both husbands and wives), who had higher levels of self-control in their first year of marriage, also reported higher level of forgiveness toward their partner compared to participants with lower levels of self-control at the beginning of marriage ($r = .39, p \leq .001$ for husbands, $r = .30, p \leq .001$ for wives; Table 5). Furthermore, a change in wives' forgiveness was related to their initial level of forgiveness ($r = -.42, p = .01$). This indicates that wives who had lower levels of forgiveness at the beginning of marriage showed higher levels of increase in their level of forgiveness toward their partner over time.

Subsequent analysis

In further analyses, we investigated whether our results held when we controlled for the effects of age, relationship satisfaction, and commitment at the beginning of marriage on growth factors. Results of the multivariate dyadic latent growth curve analysis including these control variables showed that the directions, magnitudes, and significance levels of associations remained almost the same as reported in Table 5, except for one association. The marginal association between the intercept of husbands' forgiveness and intercept of women's self-control became nonsignificant ($r = .13, p = .10$).

The effects of age, commitment, and relationship satisfaction showed that of the 24 possible effects ((4 intercepts+4 slopes) \times 3 control variables), only three effects were significant. Results showed that husbands' relationship satisfaction was positively related to their initial levels of both self-control ($\beta_{\text{husbands}} = .56, SE = .06, p < .001$) and forgiveness ($\beta_{\text{husbands}} = .29, SE = .09, p = .001$). Furthermore, wives' initial levels of

relationship satisfaction were associated with their initial levels of forgiveness ($\beta_{\text{wives}} = .23, SE = .08, p = .005$). Age and initial levels of commitment were not related to the growth factors of self-control or forgiveness.

Discussion

In the current study, we explored whether marriage may serve as a training ground for self-control and forgiveness. As such, we examined self-control and forgiveness levels among newlywed couples, over the first 4 years after marriage. Consistent with our first hypothesis and previous research (Burnett et al., 2014; Pronk et al., 2010; Righetti et al., 2013), we found a robust, moderate correlation between self-control and forgiveness at each assessment wave. Consistent with our second hypothesis, levels of self-control and forgiveness changed over time. Specifically, we found a small increase in self-control and a moderate increase in forgiveness over the first 4 years of marriage. While we expected the changes in self-control and forgiveness to be interdependent, the slopes of these two variables were unrelated. So, as opposed to our third hypothesis, the developments of self-control and forgiveness did not coincide. These results remained the same when controlling for age, relationship satisfaction, and commitment.

Marriage as a training ground

We expected self-control and forgiveness to grow over the first 4 years of marriage. While the increase in forgiveness in this time frame was medium, the increase in self-control was small. Since we argue that marriage may serve as a training ground, it may be interesting to compare our findings to recent insights into the effectiveness of other self-control trainings. A meta-analysis by Inzlicht and Berkman (2015) using a p-curve technique (Simonsohn, Nelson, & Simmons, 2014) estimated the effect size of 13 published papers on the effectiveness of self-control trainings (such as practicing non-dominant hand use, speech regulation, avoiding sweets or the handgrip task) to be $d = .17$. Similarly, the latest (forthcoming) and most comprehensive meta-analysis of 30 studies estimated the effect size of self-control trainings in a range between g corrected = .13 and .24 (Friese, Frankenbach, Loschelder, & Job, 2016). The effect sizes of these recent meta-analyses are similar to the effect size of current research, which suggests that the early years of marriage may be considered equally effective in increasing self-control as trainings specifically designed for this purpose. Nevertheless, it should be noted that the standard deviations of our study variables were somewhat limited, which may have increased the effect sizes. Future studies with more heterogeneous samples should test whether the effect sizes are indeed similar.

Why would marriage serve as a training ground for self-control and forgiveness? In order to keep their relationship well-functioning and lasting, people will often rely on both self-control and forgiveness. Doing so will likely pay off, because self-control is positively associated with many relationship protective behaviors (e.g., sacrifice and faithfulness; see Karremans et al., 2015; Pronk & Righetti, 2015) and forgiveness with relationship quality (e.g., higher trust and relationship satisfaction; e.g., Fincham & Beach, 2007). People will probably also notice the benefits that self-control and

forgiveness tend to have for the self, such as improved health and work success for self-control (e.g., De Ridder et al., 2012) and higher psychological and physical well-being for forgiveness (Karremans et al., 2003). People may thus also be increasingly motivated to demonstrate self-controlled and forgiving behavior. We expect that, by regularly displaying these adaptive behaviors, people may increase their overall capacity for self-control and forgiveness through continuous practice.

Given the unrelated change in self-control and forgiveness, there will likely be separate mechanisms at work that underlie these growths. Self-control may increase because partners generally stimulate and inspire each other to improve behavior that brings them closer to reaching their goals (see, e.g., Rusbult et al., 2009). They may do so by setting the right example (e.g., successfully striving for and reaching goals themselves) or by complimenting each other for showing self-regulatory behavior. Partners may be especially keen on stimulating self-control behavior because of its positive association with many relationship outcomes (see Karremans et al., 2015; Pronk & Righetti, 2015). Forgiveness too has many benefits for the relationship, and partners may therefore encourage each other to show more forgiving behavior. They may do so by creating an environment that elicits forgiveness (e.g., by apologizing; McCullough et al., 1998) or by showing forgiving behavior themselves. Thus, current findings support our hypothesis that marriage can serve as a training ground for self-control and forgiveness; however, the underlying mechanisms remain to be investigated.

The (In)dependency of changes in self-control and forgiveness

While forgiveness and self-control both increased over time, the developments of these two factors were unrelated. Why would this be the case? We suspect that the relationship between self-control and forgiveness is not as straightforward as has long been assumed. In highly committed relationships, such as marriage, people may not always *need* self-control to forgive their partner. Indeed, research by Karremans and Aarts (2007) showed that people can have an automatic tendency to forgive others they feel closely related to. It is possible that in stable, long-term relationships, acting in accordance with relationship goals can become the gut-level response. In those cases, people may actually rely on self-control to take important personal goals into account (e.g., self-protection and self-respect) rather than relationship goals. In line with this idea, Righetti, Finkenauer, and Finkel (2013) showed that in highly committed relationships, one's capacity for self-control can prevent people from making certain types of sacrifice for their partner. Similarly, in the domain of forgiveness, research by Stanton and Finkel (2012) showed that a higher level of self-control is related to *lower* forgiveness of mild transgressions. These findings suggest that in close relationships, partners may need self-control to override an automatic response in favor of the relationship or partner and thereby maintain an optimal balance between self- and relational interest.

These seemingly contradictory findings can be understood in a recent theoretical perspective that self-control promotes goal-directed behavior but that this is not always the equivalent of prorelational behavior (see Pronk & Righetti, 2015). In most cases, forgiveness of one's close relationship partner will contribute to couple and individual well-being (e.g., Karremans et al., 2003; Witvliet, 2001), and it is therefore the most

appropriate long-term response. This is also apparent when looking at the robust correlation of self-control and forgiveness in current research as well as in past literature (e.g., Burnette et al., 2014). However, forgiveness may not always have positive long-term consequences. For example, when someone continuously displays forgiveness toward a partner who does not improve his or her behavior, this may lead to lower self-respect and less self-concept clarity (Luchies, Finkel, McNulty, & Kumashiro, 2010). Forgiving may signal that offenders do not have to adjust destructive behavior, such as psychological and physical aggression, thereby contributing to the maintenance of the behavior (McNulty, 2011). Instead of solely benefitting the relationship, self-control seems to promote needs that are at stake. Indeed, a recent paper by Visserman, Righetti, Kumashiro, and Van Lange (2016) showed that self-control does not one-on-one promote relationship goals but instead helps people to balance prosocial and prorelational goals, which contribute to well-being. These recent insights may explain why a change in self-control does not relate to more forgiveness (and vice versa).

Questions on relationship dynamics

The main effects of our research did not vary substantially between genders. That is, for both husbands and wives, self-control and forgiveness were correlated throughout the study, both increased significantly over time, and the developments of self-control and forgiveness were unrelated. In the beginning of marriage, husbands did show higher levels of both self-control and forgiveness compared to wives. Because there was no gender difference in the slopes of these two factors, this difference remained the same over time. This finding is in contrast with previous literature showing that females tend to be more forgiving than men (for a meta-analysis, see Miller, Worthington, & McDaniel, 2008) and generally have a somewhat higher level of self-control (e.g., Hosseini-Kamkar & Morton, 2014). Future research is needed to examine the robustness of our findings.

Apart from testing gender differences, we also explored questions related to relationship dynamics. When looking at the initial levels, husbands' forgiveness was marginally related to wives' forgiveness. So, partners seem to match each other's level of forgiveness in the beginning of marriage. Interestingly though, wives' initial level of forgiveness was negatively related to change in husbands' self-control. This implies that husbands, who were not forgiven by their partners at the start of their marriage, were more likely to increase their self-control over time. This could be an adaptive mechanism; wives may stimulate their spouse to exert more self-control by being unforgiving toward acts of low self-control. Interestingly, we only find this effect for males and not for females (i.e., females did not show a steeper increase in self-control when their husband demonstrated low forgiveness at the start of marriage). These findings may shed new light on existing research in the domain of criminology, showing that marriage is associated with a decrease in offending—or even complete desistance from offending—for men (e.g., Horney, Osgood, & Marshall, 1995; Sampson & Laub, 1993), but not for women (Bersani, Laub & Nieuwbeerta, 2009; King, Massoglia, & MacMillan, 2007). One possible explanation for this effect is that wives exert social control over men, perhaps by being unforgiving of their wrongdoing.

In our research, we also took into account age effects and indicators of relationship well-being (i.e., relationship satisfaction and commitment). Starting levels of age, relationship satisfaction, and commitment did not change our main findings; however, there were some associations between these variables and self-control and forgiveness that stood out. First, results showed associations between self-control and forgiveness and initial levels of relationship satisfaction. Specifically, husbands who were more satisfied in the beginning of marriage were more likely to have higher levels of self-control and forgiveness. Similarly, wives who were more satisfied in the beginning of marriage had higher levels of forgiveness. It could be the case that having good relationship abilities (i.e., higher self-control and forgiveness) boosts relationship well-being. Alternatively, being in a well-functioning relationship may positively affect self-control and forgiveness levels. This is in line with recent findings showing that people who experience a high level of relationship satisfaction on a specific day also experience more self-regulatory success and goal progress on that day (Hofmann, Finkel, & Fitzsimons, 2015). It may also be the case that self-control and forgiveness serve as a buffer against negative effects of experiencing relationship difficulties (e.g., interpersonal conflict) on relationship well-being. Future research is needed to study the causality of this effect and the underlying mechanism through which this effect operates.

Finally, we also explored whether changes in levels of self-control or forgiveness of one partner affected changes in self-control or forgiveness of the other partner. In terms of trajectories over time, an increase in husbands' self-control was associated with an increase in wives' forgiveness and vice versa (albeit this association was marginal). So the marital partners in our research seemed to reap the benefits of a virtuous cycle: When self-control of the husband went up, forgiveness of the wife followed.

It is important to underline that our current findings were obtained in a subset of *newlywed* couples. So, in the early years of marriage, individuals experience an increase in forgiveness and self-control. It may well be the case that these positive effects are due to the stage of the marriage. In the very beginning of marriage, partners likely are still motivated to make their marriage successful and to strive for other long-term goals as a couple (e.g., better careers and healthier lifestyles). We may not find the same, or even a linear, increase in self-control and forgiveness when couples get settled with each other and used to their marital status. The high—and increasing—divorce rates in the Western world (e.g., Kennedy & Ruggles, 2014) and the decline in relationship satisfaction throughout marriage (e.g., Mitnick, Heyman, & Smith Slep, 2009) suggest that people do not continue increasing their relationship abilities over time. At the same time, it may well be the case that our results are not restricted to newlywed couples. Similar results may be obtained when studying cohabiting partners or even close friendships. We expect that in any interdependent relationship in which people are motivated to be good relationship partners and bring out the best in each other, capacities for self-control and forgiveness may grow.

Conclusion

In the current research, we aimed to demonstrate that marriage may serve as a training ground for self-control and forgiveness. Having a high level of self-control is a desirable

attribute: It helps one to prosper in almost all domains in life (e.g., Moffitt et al., 2011; Tangney et al., 2004), including close relationships (e.g., Karremans et al., 2015; Pronk & Righetti, 2015). Similarly, being forgiving toward one's spouse not only benefits the relationship (e.g., Fennell, 1993; Paleari et al., 2005) but also contributes to individual health and well-being (e.g., Karremans et al., 2003; Witvliet, 2001). It would thus make sense for people to strive to improve their levels of self-control and forgiveness, especially when they recently committed to their relationship. Current findings showed that self-control and forgiveness indeed increased over the first 4 years of marriage. The beginning stage of marriage may thus provide the ideal context for self-control and forgiveness to grow.

Author contribution

Tila M. Pronk and Asuman Buyukcan-Tetik contributed equally to this work.

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Notes

1. Given that we had two study variables, our analysis can also be called a "bivariate analysis." Nevertheless, as discussed later, because we also included both husbands' and wives' separate trajectories in our models, we preferred to call our analysis, which includes both study variables' trajectories for both partners (i.e., four growth curves), a "multivariate analysis."
2. Correlations between growth factors are discussed in the next section.

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