

Dyad to triad: A longitudinal analysis of humor and pregnancy intention during the transition to parenthood

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Abstract

The transition to parenthood is a stressful life event that often leads to decreases in relationship satisfaction over time. Guided by the Stress Buffering Model, we examined how pregnancy intention and humor use are associated with relationship satisfaction across the transition to parenthood using a multi-wave longitudinal design. First-time parents were initially assessed prenatally and then every 6-month postpartum for 2 years. Six months after birth, each couple was video-recorded engaging in two support discussions where each partner's use of different humor styles was observed and rated. The results revealed a positive association between affiliative humor use (assessed at 6-month postpartum) and relationship satisfaction (assessed across the entire transition) for men and women. For men only, there was an interaction between pregnancy intention (assessed prenatally) and aggressive humor use (assessed 6-month postpartum). Specifically, when the pregnancy was unplanned, men who displayed higher levels of aggressive humor at 6-month postpartum reported higher overall relationship satisfaction. There also was a significant interaction between men's (but not women's) affiliative humor use and pregnancy intention, such that when men reported an unplanned pregnancy, their greater use of affiliative humor buffered declines in their relationship satisfaction. These findings suggest that, for men, greater use of affiliative

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humor appears to forestall declines in their relationship satisfaction. More broadly, different forms of humor may promote or sustain higher levels of relationship satisfaction in men across the chronically stressful transition to parenthood because they serve key communicative functions.

Keywords

Dyadic data analysis, humor, pregnancy intention, relationship satisfaction, trajectories, transition to parenthood

The transition to parenthood is one of the most critical changes many couples go through, and it is the point at which the marital dyad turns into a family triad (Doss, Rhoades, Stanley, & Markman, 2009). Becoming parents introduces a host of new demands and concerns beyond the relationship, such as meeting the 24-hr needs of their infant (Simpson, Rhoades, Campbell, Wilson, & Tran, 2002), taking on extra housework (Gjerdingen & Center, 2005), and dealing with the division of childcare (Fillo, Simpson, Rhoades, & Kohn, 2015). These additional tasks reflect some of the reasons nearly all new parents report elevated levels of stress (Doss et al., 2009).

Researchers have already confirmed that increases in stress are systematically related to decreases in relationship satisfaction across the transition to parenthood (Doss et al., 2009; Lawrence, Rothman, Cobb, Rothman, & Bradbury, 2008). For example, a meta-analysis of cross-sectional studies comparing parents to nonparents found that parents report significantly lower levels of relationship satisfaction than nonparents do (Twenge, Campbell, & Foster, 2003). Moreover, several longitudinal studies have documented significant drops in relationship satisfaction over time among couples who became parents (e.g., Cowan & Cowan, 1995). Doss, Rhoades, Stanley, and Markman (2009) found that, when comparing parents and nonparents, couples who transitioned to parenthood reported both more sudden and steeper declines in relationship satisfaction. Within the first 18 months after the birth of their child, Cowan and Cowan (2000) found that one third of individuals had marital distress ratings that fell within the clinically distressed range. Viewed together, these studies clearly indicate that, for many people, becoming a parent results in declines in relationship satisfaction over time.

Although most transition to parenthood studies document significant declines in relationship satisfaction across the transition to parenthood (e.g., Lawrence et al., 2008), not all couples experience decreased satisfaction. Some couples (and partners) experience the transition as an enhancement to their relationship (e.g., Cox, Paley, Burchinal, & Payne, 1999; Doss et al., 2009). The variability in how couples (and partners) experience the transition has led researchers to question what factors, individual, or dyadic may explain this variation in relationship satisfaction. Declines in first-time parents' relationship satisfaction are partially associated with the stress that new parenthood often places on relationships (Lavee, Sharlin, & Katz, 1996), but new parents' outcomes vary depending on their adaptability during this stressful transition (Cowan & Cowan, 2000). Several transition to parenthood studies has focused on just one of the new parents in a couple (e.g., Dew & Wilcox, 2011) or on both parents separately (e.g.,

Nomaguchi & Milkie, 2003), but it is important to examine *dyadic influences* during the transition, given that partners can and do influence one another (Rholes et al., 2001).

Guided by the social support literature, the Stress Buffering Model (SBM) outlines that perceiving support from one's partner diminishes the effect of stressors (Cohen & Wills, 1985). There is substantial empirical evidence in the social support and humor literatures regarding the buffering effect of humor. In social support contexts, observer-rated affiliative humor (e.g., positive humor) has a buffering effect by decreasing the negative mood of romantic partners' (Howland & Simpson, 2014). Moreover, humor buffers both depressive symptoms (Nezu, Nezu, & Blissett, 1988) and stress (Fritz, Russek, & Dillon, 2017). Guided by the SBM, the purpose of this study was to examine whether and how pregnancy intention (i.e., was a pregnancy planned or not planned) and the use of different types of humor by each partner (rated from video-recorded support discussions) predict each partner's level of satisfaction across the transition to parenthood.

Humor

Humor plays a vital role in the formation, maintenance, and regulation of romantic relationships, and it can be used as a maintenance behavior to help partners adapt to stressful situations (Shiota, Campos, Keltner, & Hertenstein, 2004). When distressed, individuals can use affiliative humor, which frequently enhances interpersonal cohesiveness (Martin, Puhlik-Doris, Larsen, Gray, & Weir, 2003), amuses partners, puts partners at ease, and thereby improves the relationship (Hampes, 2006). Affiliative humor involves telling funny stories, making witty remarks, engaging in mild self-deprecation, and/or telling jokes that do not belittle or demean the partner. Higher levels of affiliative humor are positively related to social support, intimacy, and relationship satisfaction (Campbell, Martin, & Ward, 2008).

Although affiliative humor tends to be beneficial to relationships, not all humor is affiliative. Aggressive humor is a second interpersonal form of humor that is maladaptive because it tends to hurt others through derision, sarcasm, and hostility (Hampes, 2006; Martin et al., 2003). Aggressive humor involves ridiculing, disparaging, teasing, intimidating, and/or manipulating another person to cut them down without caring about the impact, consequences, or feelings of the person (Martin et al., 2003). Higher levels of aggressive humor tend to correlate negatively with interpersonal competence, conscientiousness, agreeableness, and relationship satisfaction (Butzer & Kuiper, 2008; Campbell et al., 2008). In addition, aggressive humor is positively correlated with hostility and neuroticism (Martin, 2007). Despite its overall negative effects, some research has found that aggressive humor is at times beneficial when enacted by men (but not by women; Dyck & Holtzman, 2013; Prerost, 1995). In general, men tend to be more verbally aggressive than women (Archer, 2004), and men both engage in (Martin et al., 2003) and appreciate more aggressive forms of humor than most women (Crawford & Gressley, 1991). Thus, men's use of aggressive humor may be normative and beneficial (e.g., reduce men's psychological distress; Fritz et al., 2017), but research has not yet untangled the problem of aggressive humor and gender differences.

Campbell, Martin, and Ward (2008) were the first to explore the role of humor use in interactions involving romantic partners. They found that a partner's use of affiliative and aggressive humor in these interactions was associated with an individual's current relationship satisfaction, demonstrating both a cross-sectional link between humor use and relationship satisfaction and support for partner effects of humor on satisfaction. Caird and Martin (2014) found support for actor effects in which the greater use of affiliative humor was associated with higher relationship satisfaction, and the greater use of aggressive humor was negatively associated with satisfaction. Several other studies have also documented a link between romantic partners' humor use and the relationship satisfaction of partners (e.g., Butzer & Kuiper, 2008). No study, however, has examined the potential buffering role of humor in association with relationship satisfaction during the stressful transition to parenthood. Such an examination is important because understanding the factors that help and hinder individuals as they transition to parenthood could improve parenting (Salmela-Aro, 2012) by buffering the effects of parenting stress, negative parenting behaviors, and parental conflict, all of which can affect a family's functioning, leading to adverse outcomes for children (Petch & Halford, 2008).

The use of humor may also be associated with satisfaction over time (i.e., across the first 2 years of the transition to parenthood). Caird and Martin (2014), for example, explored the daily effects of affiliative and aggressive humor on relationship satisfaction and found that low levels of affiliative humor predicted relationship dissatisfaction. Even though satisfaction fluctuated from day-to-day, reporting more affiliative humor was associated with higher satisfaction, whereas reporting more aggressive humor was associated with lower levels of relationship satisfaction over time. Thus, we expected that displaying more affiliative humor and less aggressive humor in support discussions during the transition to parenthood would be associated with higher concurrent satisfaction and slower rates of declines in satisfaction over time.

Pregnancy intention

Deliberately deciding to become parents (i.e., openly discussed) tends to make the transition somewhat easier (Stamp, 1994). When a pregnancy is planned, couples can prepare themselves more and discuss issues relevant to the impending birth. Indeed, individuals with planned pregnancies tend to have more positive interactions, whereas those with unplanned pregnancies have more negative ones (Cox et al., 1999). Pregnancy planning, therefore, could serve as a buffer for couples transitioning to parenthood by attenuating some of the stressful impact of the transition, including its effects on marital satisfaction (Shapiro, Gottman, & Carrère, 2000). Consistent with this view, couples who have planned pregnancies show more stable levels of relationship satisfaction, whereas those who do not plan their pregnancies experience steeper declines in relationship satisfaction over time (Lawrence et al., 2008). Thus, we expected couples who reported planned pregnancies to be more satisfied than those with unplanned pregnancies and, over time, couples who report planned pregnancies should experience less pronounced declines in relationship satisfaction. However, the initial desire to have children is also related to relationship satisfaction during the transition to parenthood. Rholes, Simpson, and Friedman (2006), for instance, found that individuals who had less desire to have children found parenting to

be more stressful and were less satisfied at 6-month postpartum. Based on these findings, we controlled for pregnancy desire in all of our analyses.

The current study

The current longitudinal, multi-wave study examined the use of affiliative and aggressive humor in video-recorded interactions between couples undergoing the transition to parenthood. Couples (both partners) were first assessed approximately 6 weeks before the birth of their first child, then every 6-month postpartum until year 2 of their child's life. We examined whether each type of humor predicted relationship satisfaction, both at 6-month postpartum and over time. We also examined whether pregnancy intention (reported prenatally) moderated the association between humor use and relationship satisfaction. We first analyzed data collected at 6-month postpartum to determine the within-period associations between pregnancy intention, humor use, and relationship satisfaction. After conducting these analyses, we then conducted growth curve analyses to determine how humor use and pregnancy intention were associated with changes in satisfaction over time.

Based on previous research and theory, we hypothesized that:

H1a: Greater self and partner use of affiliative humor should be related to higher relationship satisfaction, especially for those who had planned (vs. unplanned) pregnancies.

H1b: Greater self and partner aggressive humor should be related to lower relationship satisfaction, and this negative association should be stronger for couples who had unplanned pregnancies, but attenuated for those who had planned pregnancies.

RQ1: Do the associations between humor, relationship satisfaction, and pregnancy planning differ between men and women?

H2a: Relationship satisfaction should decrease over time for all individuals, but decreases should be more pronounced for individuals and partners who use more aggressive humor and had unplanned pregnancies.

H2b: Relationship satisfaction should decrease over time, but decreases should be less pronounced for individuals and partners who use more affiliative humor and had planned pregnancies.

RQ2: Do the overtime associations between humor, relationship satisfaction, and pregnancy planning differ between men and women?

Methods

Participants

The current study was a longitudinal examination of couples over the transition to parenthood. The initially recruited sample consisted of 192 heterosexual couples

($N = 384$) from the southwestern U.S. All couples were living together and expecting their first child. Couples (each partner) received a packet of questionnaires approximately 6 weeks prior to their expected due date and were followed up postnatally at 6 months ($n = 165$), 12 months ($n = 153$), 18 months ($n = 151$), and 24 months ($n = 137$). Also, 2 weeks postnatally, each partner was asked about his or her labor and delivery experiences and how close she/he felt to the new child.

Couples were recruited through childbirth classes at local hospitals. Of the couples approached, approximately 45% agreed to participate. The majority of the sample was Caucasian (82%), with the remaining participants being Asian (9%) and Hispanic (9%). Of the participants, 94% had some college education. In terms of annual household income, 6% earned more than US\$100,000, 38% earned US\$55,000–\$99,999, 46% earned US\$25,000–\$54,999, and 16% earned below US\$25,000. The mean age of the women was 26.70 years old (standard deviation (SD) = 4.1), and the mean age of the men was 28.42 years old ($SD = 4.4$). Only 5% of the couples were living together but not married; the remaining 95% were living together and married. Couples who were cohabitating had been living together for an average of 1.85 years ($SD = 2.2$), whereas the married couples had been married for 3.3 years, on average ($SD = 2.6$).

Procedure

For participants to take part in the study, they had to have been married or living with their partner, and both partners had to be expecting their first child. Approximately 6 weeks before their expected due date (Time 1), each partner was separately mailed a set of self-report questionnaires. Participants were instructed to complete the questionnaires separately (without conferring with their partner) and then mail them back to the study coordinator in separate, prestamped envelopes. Participants also completed questionnaires postnatally at 6 months (Time 2), 12 months (Time 3), 18 months (Time 4), and 24 months (Time 5). Six month intervals were selected in order to allow enough time for potential changes to occur in the parents' relationships without overburdening them. At 6-month postpartum (Time 2), each couple was invited to our laboratory to participate in one conflict resolution discussion and two support discussions (see below). During all measurement waves, each partner was instructed to complete the questionnaires separately and privately. At Times 1–3, couples were paid US\$50 for completing the questionnaires. To minimize attrition, payment was increased to US\$75 dollars for the Time 4 and 5 questionnaires. Couples in which both partners completed and returned all of their questionnaires were entered into a random drawing for two US\$500 cash awards, which were given at the conclusion of the study.

All couples were invited to our laboratory 6-month postpartum (Time 2). At this visit, each couple engaged in two support discussions following procedures used by Pasch and Bradbury (1998). Specifically, each participant was video-recorded in two roles: as a potential *support provider* and as a *support recipient* in two separate discussions, each of which lasted 8 min. Participants were first asked to identify the most important thing they wanted to change something about themselves in their role as a new parent. This topic was then discussed when each participant (partner) was in the role of support recipient. One partner was then randomly assigned to be either the support provider or the support

recipient in the first discussion, after which the roles were reversed in the second discussion. Prior to the first discussion, the support recipient was told: “We’d like you to start the first interaction with the topic you generated. Please discuss something you would like to change about yourself as a new parent.” The support provider was then told: “Please be involved in the discussion and respond to your partner however you wish.” Each couple then began their first discussion after the experimenter left the room. After 7 min, the experimenter instructed each couple via a microphone in another room to wrap up their discussion. Each couple then switched roles as support provider and support recipient, and the same procedure was repeated for the second discussion.

Measures

Relationship satisfaction. To measure relationship satisfaction at each time point (i.e., all five waves of the study), the 10-item satisfaction subscale of the Dyadic Adjustment Scale was used (Spanier, 1976). Eight of the items on this scale were answered on a 6-point scale, anchored 0 (*never*) to 5 (*all the time*), and one item was answered on a 4-point scale, anchored 0 (*never*) to 4 (*everyday*). Sample items were “In general, how often do you think that things between you and your partner/spouse are going well?” and “How often do you and your partner/spouse quarrel?” (reverse-scored). Participants also rated 1-item for overall happiness with their relationship on a 7-point scale, anchored 0 (*extremely unhappy*) to 6 (*perfect*). Items were reverse-scored and then summed, resulting in a maximum possible score of 50; higher scores indicated greater relationship satisfaction.

Pregnancy intention. Prior to the birth, each partner was asked to report on pregnancy intention. Specifically, each partner was asked whether the couple’s pregnancy was planned (they intended to get pregnant) or unplanned (they were not trying to get pregnant). Pregnancy planning tends to be highly consistent in terms of reporting across partners (Cox et al., 1999). In our sample, only seven couples disagreed on pregnancy intention, so we treated it as a couple-level variable. When partners disagreed, we used the mother’s report as recommended in past research (e.g., Cox et al., 1999).

Observer-rated aggressive and affiliative humor. Eleven trained coders independently watched and rated each couple’s discussion, focusing on the support provider’s use of aggressive and affiliative humor in each video-recorded discussion. The purpose of these codes was to gather a sample of the typical patterns of humor expressed by each partner in each relationship. Coders provided global ratings of humor as developed by Howland and Simpson (2014), which is based on the humor measures developed by Campbell et al. (2008). Aggressive humor was defined as humor that put down, demeaned, disparaged, and/or criticized the partner. Affiliative humor was defined as humor designed to enhance the relationship and/or reduce interpersonal tension by telling funny stories, laughing, and joking with one’s partner.

All coders were carefully trained to code both humor scales reliably and accurately. During training, we addressed any discrepancies between coders in detailed discussions. When coders were reliable and accurate, we randomly assigned half of them to code the

males in the role of support providers and the other half to code the females in the role of support providers. Each coder rated the provider's use of humor and the extent to which she/he used aggressive (or affiliative) humor during his/her interaction with the partner. Ratings were made on a 7-point scale, anchored 1 (*none*) to 7 (*a lot*). The raters had high interrater agreement: Cronbach's $\alpha = .83$ for men's use of affiliative humor, $\alpha = .85$ for women's use of affiliative humor, $\alpha = .83$ for men's use of aggressive humor, and $\alpha = .84$ for women's use of aggressive humor. Scores were computed by taking the average score from the coder's ratings. Thus, scores for each type of humor were computed by taking the average of all of the coders' ratings. Examples of each humor type are provided in Online Supplementary Material.

Control variable

Desire to have children. Prenatally, each participant also completed the Desire to Have Children Scale (Rholes, Simpson, Blakely, Lanigan, & Allen, 1997), which consists of 12-items answered on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items are "I have a strong desire to have children" and "Without children, I would feel unfulfilled." Items were averaged, with higher scores indicating a stronger desire to have children. Cronbach's α s for the 12-items for men and women on desire to have children were 0.83 and 0.83, respectively.

Results

Preliminary analyses

We first evaluated whether there were any differences between participants who completed the entire study versus those who dropped out. Individuals who dropped out by Wave 5 were compared to those who remained. Independent samples *t*-tests revealed no differences on any of the study variables except pregnancy intention. Individuals who reported unplanned pregnancies were more likely to dropout, $\chi^2(1, N = 101) = 17.08$, $p < 0.001$, than those who reported planned pregnancies. Demographic variables, however, also varied, with individuals who dropped out having less education, $M = 4.13$, $SD = 1.52$ vs. $M = 4.95$, $SD = 1.17$, $t(158.45) = 5.07$, $p < 0.001$, lower income, $M = 2.84$, $SD = 1.45$ vs. $M = 3.41$, $SD = 1.68$, $t(218.97) = 3.27$, $p = 0.001$, being younger, $M = 26.19$, $SD = 4.27$ vs. $M = 28.08$, $SD = 4.22$, $t(383) = 3.96$, $p < 0.001$, and having been married for fewer years, $M = 2.34$, $SD = 2.71$ vs. $M = 3.01$, $SD = 2.58$, $t(370) = 2.14$, $p = 0.03$, than those who remained throughout the study.

Data analytic models

Given the dyadic nature of our data, we tested our hypotheses within a multi-level model framework using the Actor-Partner Interdependence Model (APIM; Kenny, Kashy, & Cook, 2006). The APIM is used for dyadic data in which actor and partner effects are modeled simultaneously. Actor effects reflect the association between the actor's independent and dependent scores (controlling for the partner's independent variable score), whereas partner effects reflect the association between the partner's independent

variable score and the actor's dependent variable score (controlling for the actor's independent variable score). The two-intercept model was used to examine the unique effects of women and men simultaneously (Raudenbush, Brennan, & Barnett, 1995). We treated sex as a distinguishable characteristic because of the well-documented differences between women and men in the experience of parenthood. All independent variables were group-mean centered prior to conducting the analyses to reduce multicollinearity.

To test H1, we entered affiliative humor, aggressive humor, and desire to have children for each partner into the Level 1 equation. Pregnancy intention was then entered into each of the Level 2 equations for the estimated main effects and interactions. Following this, we tested H2 (our longitudinal hypothesis). To examine the changes in relationship satisfaction over the 2-year study, we calculated each participant's slope for satisfaction over time (i.e., from Time 1 through Time 5) in order to conduct a growth curve analysis. The first step involved running an unconditional growth model with time as the only predictor of relationship satisfaction, once for men and once for women. From the unconditional growth models, residual scores were extracted to measure change in relationship satisfaction. These scores represent the slope of satisfaction for each individual from Time 1 to Time 5. To test the longitudinal model, we repeated the same model as in H1 with change in satisfaction as the outcome variable. Interactions were decomposed using standard procedures (Aiken & West, 1991).

The means and SDs of the study variables are presented in Table 1. Due to the nonindependence in the dyadic data, the bivariate correlations are used for descriptive purposes only and are presented in Table 2.

H1: Within-time associations

H1 examined the interaction of pregnancy intention and humor use at Time 2, predicting relationship satisfaction while controlling for desire to have children. There were two significant main effects of actor's affiliative humor on actor's relationship satisfaction: one for women ($B = 1.76, p < 0.05$) and another for men ($B = 2.36, p < 0.05$). These effects support our hypothesis that actor's own affiliative humor should be related to their higher relationship satisfaction. The main effects for partner affiliative humor use, however, were not significant (see Table 3). In addition, there was no significant interaction between affiliative humor and pregnancy intention. There was, however, a significant main effect for men in which actor's aggressive humor ($B = 1.83, p < 0.05$) predicted their level of satisfaction as well as a significant interaction for men between actor's aggressive humor use and pregnancy intention predicting their satisfaction. This interaction (see Figure 1) indicates that, for men who reported an unplanned pregnancy, there was a significant positive association between aggressive humor use and relationship satisfaction. The association between aggressive humor use and relationship satisfaction was not significant for men who reported planned pregnancies, however.

H2: Growth curve analyses

H2 examined the interaction between pregnancy intention and humor use in predicting changes in relationship satisfaction. There were no significant effects for women

Table 1. Mean, SD, minimum, and maximum values for the study variables.

	Men					Women					<i>t</i> (<i>df</i>)	<i>p</i>
	<i>N</i>	<i>M</i>	<i>SD</i>	Min.	Max.	<i>N</i>	<i>M</i>	<i>SD</i>	Min.	Max.		
Satisfaction Time 1	194	42.41	5.29	6.00	50.00	192	42.88	4.99	15.00	50.00	-1.48 (191)	0.14
Satisfaction Time 2	168	42.29	4.99	21.00	49.00	167	42.29	4.73	26.00	50.00	0.03 (163)	0.97
Satisfaction Time 3	155	41.58	6.83	10.00	50.00	150	42.50	4.88	26.00	50.00	-1.56 (148)	0.12
Satisfaction Time 4	152	41.30	6.53	11.00	49.00	148	42.41	5.63	14.00	50.00	-2.51 (145)	0.01
Satisfaction Time 5	142	40.96	6.86	1.00	49.00	136	41.54	6.77	0.00	50.00	-2.39 (134)	0.02
Change in satisfaction	191	-.49	0.90	-5.71	1.34	194	-0.35	0.80	-5.27	1.33	-1.95 (191)	0.05
Aggressive humor	165	2.36	1.10	1.00	6.83	165	3.03	1.41	1.00	6.80	-6.99 (165)	0.0001
Affiliative humor	165	3.91	1.10	1.17	6.67	165	4.09	1.19	1.40	6.40	-1.98 (165)	0.05
Desire to have children	191	5.38	0.99	2.67	7.00	194	5.71	0.90	2.00	7.00	-4.50 (190)	0.0001
Pregnancy intention	189	0.73	0.45	0.00	1.00	189	0.73	0.44	0.00	1.00	-0.38 (185)	0.71

SD = standard deviation.

Table 2. Bivariate correlations between the study variables.

Study variables	Study variables					
	1	2	3	4	5	6
1. Satisfaction	0.57***	-0.05	0.33***	-0.29***	0.27***	0.17*
2. Change in satisfaction	0.10	0.42***	0.05	-0.08	0.07	0.06
3. Affiliative humor	0.12	0.18**	0.54***	-0.59***	-0.24**	0.01
4. Aggressive humor	-0.11	-0.16*	-0.39***	0.56***	0.09	-0.12
5. Desire to have children	0.20**	0.17**	0.02	-0.03	0.46***	0.04
6. Pregnancy intention	0.19**	0.29**	0.03	-0.06	0.16*	0.90***

Note. Correlations for women appear above the diagonal; those for men appear below the diagonal. Correlations between partners appear along the diagonal in bold.

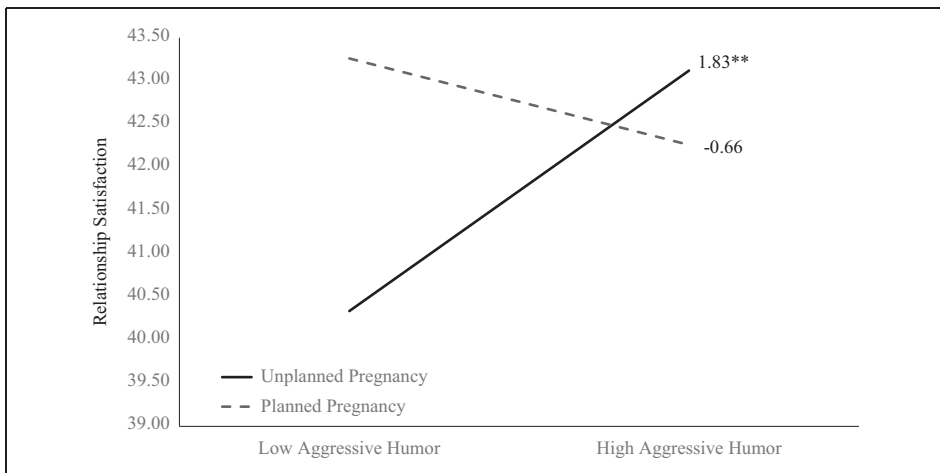
****p* < 0.001; ***p* < 0.01; **p* < 0.05.

(see Table 4). However, there was a significant actor effect for men’s affiliative humor use ($B = 0.45, p < 0.01$) as well as a partner effect for men’s aggressive humor use ($B = -0.34, p < 0.01$) predicting changes in satisfaction. Specifically, for men, affiliative humor use was positively associated with their own changes in relationship satisfaction, and aggressive humor use by their partner was negatively associated with men’s changes

Table 3. Mens' and womens' affiliative humor, aggressive humor, and pregnancy intention predicting Time 2 relationship satisfaction.

Predictor variable	Men				Women			
	Coefficient	SE	t	p	Coefficient	SE	t	p
Intercept	41.73	1.12	37.30	0.001	40.77	0.99	41.18	0.001
Pregnancy intention	1.03	1.23	0.84	0.40	1.44	1.09	1.32	0.19
Actor affiliative humor	2.36	1.09	2.17	0.03	1.76	0.89	1.98	0.05
Affiliative × Pregnancy Intention	-1.98	1.19	-1.67	0.10	-0.60	0.99	-0.61	0.55
Partner affiliative humor	-0.56	1.03	-0.55	0.59	0.29	1.00	0.29	0.77
Affiliative × Pregnancy Intention	0.74	1.14	0.65	0.52	-0.35	1.08	-0.32	0.75
Actor aggressive humor	1.83	0.92	1.98	0.05	-0.52	0.73	-0.71	0.48
Aggressive × Pregnancy Intention	-2.49	1.05	-2.36	0.02	0.59	0.83	0.71	0.48
Partner aggressive humor	-0.67	0.83	-0.81	0.42	0.15	0.81	0.19	0.85
Aggressive × Pregnancy Intention	0.34	0.95	0.36	0.72	-0.81	0.93	-0.88	0.38
Desire to have children	0.59	0.36	1.64	0.10	1.23	0.34	3.55	0.001

Note: Coefficients are unstandardized. $df = 155$. SE = standard error.

**Figure 1.** Interaction between men's aggressive humor and pregnancy intention predicting men's relationship satisfaction at Time 2. $**p < 0.01$.

in relationship satisfaction. Furthermore, there was an interaction between men's own affiliative humor use and pregnancy intention predicting changes in men's relationship satisfaction. As shown in Figure 2 and consistent with H2, for men who reported a planned pregnancy, affiliative humor use was unrelated to their own changes in relationship satisfaction. For men who reported an unplanned pregnancy, however, their use of affiliative humor was positively associated with changes in their relationship satisfaction. In particular, at lower-than-average levels of affiliative humor use, men who reported an unplanned pregnancy had more significant declines in relationship

Table 4. Mens' and womens' affiliative humor, aggressive humor, and pregnancy intention predicting relationship satisfaction overtime.

Predictor	Men				Women			
	Coefficient	SE	t	p	Coefficient	SE	t	p
Intercept	-0.45	0.19	-2.31	0.02	-0.61	0.19	-3.16	0.002
Pregnancy intention	0.07	0.22	0.35	0.73	0.29	0.21	1.35	0.18
Actor affiliative humor	0.44	0.18	2.45	0.01	0.23	0.17	1.40	0.17
Affiliative × Pregnancy Intention	-0.42	0.20	-2.05	0.04	-0.28	0.19	-1.48	0.14
Partner affiliative humor	-0.24	0.17	-1.43	0.16	-0.10	0.18	-0.55	0.58
Affiliative × Pregnancy Intention	0.28	0.19	1.43	0.15	0.13	0.20	0.67	0.51
Actor aggressive humor	0.17	0.16	1.11	0.27	0.15	0.14	1.06	0.29
Aggressive × Pregnancy Intention	-0.22	0.18	-1.20	0.23	-0.21	0.16	-1.27	0.21
Partner aggressive humor	-0.33	0.14	-2.32	0.02	-0.12	0.15	-0.81	0.42
Aggressive × Pregnancy Intention	0.29	0.17	1.74	0.08	0.08	0.18	0.45	0.65
Desire to have children	0.06	0.06	0.89	0.37	0.03	0.07	0.40	0.69

Note: Coefficients are unstandardized. *df* = 161. SE = standard error.

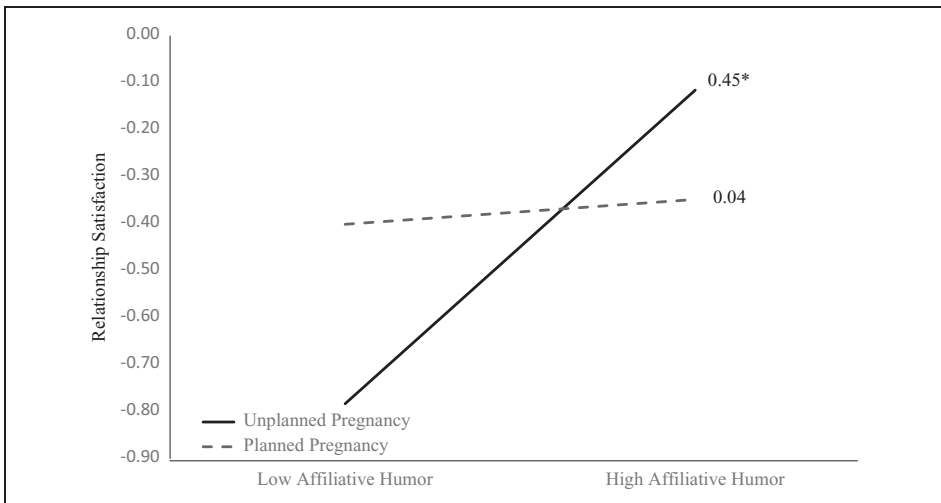


Figure 2. Interaction between men's affiliative humor use and pregnancy intention predicting men's change in relationship satisfaction overtime. **p* < 0.05.

satisfaction than men who used higher-than-average affiliative humor. In fact, men who used higher-than-average levels of affiliative humor and reported an unplanned pregnancy reported almost no decline in relationship satisfaction.

Discussion

The purpose of the study was to examine first-time parents' relationship satisfaction across the transition to parenthood. Our first aim was to examine within-time (6-month

postpartum) associations between humor use and pregnancy intention predicting relationship satisfaction. Our second aim involved using growth curve analyses to determine how humor use and pregnancy intention were associated with changes in relationship satisfaction across the first 2 years of the transition to parenthood. Prior research on humor in romantic relationships has focused on the use of humor during romantic relationship initiation, as an emotion regulation strategy in relationships, and during conflictual interactions between established couples. We extended research on humor in romantic relationships by focusing on the use of humor within potentially supportive interactions in the midst of an often difficult, chronically stressful life transition—the transition to parenthood.

The within-time analyses revealed positive associations between men's use of affiliative and aggressive humor and their own relationship satisfaction. Regardless of its valence, greater use of both types of humor was associated with higher levels of satisfaction in men. It is important to note, however, that the level of aggressive humor displayed in our study was relatively low, and the results need to be interpreted with this in mind. In some prior studies (e.g., Campbell et al., 2008), greater use of affiliative humor has been linked to higher relationship satisfaction, whereas more aggressive humor has been associated with lower relationship satisfaction. The broader literature on aggressive humor, however, has mixed findings, especially with respect to men's level of satisfaction. Prior work indicates that men tend to engage in aggressive humor more (Martin et al., 2003) and appreciate and prefer hostile forms of humor (Crawford & Gressly, 1991; Prerost, 1995). Men, therefore, may view aggressive humor as more normative and perhaps more similar to affiliative humor than women do and, in certain contexts, it might be perceived as one way to express affection or closeness (Prerost, 1995). Indeed, Dyck and Holtzman (2013) found that the expression of aggressive humor was related to more perceived social support among men. Further, humor can be used to promote resilience and well-being through cognitive reappraisal of stressful life events (Kuiper, 2012). For example, humor use is a strategy people can use to shift their perspective on stressful situations to help cope with the stress or to adapt the view of the stressful situation (Cann & Collette, 2014). For example, Fritz, Russek, and Dillon (2017) found that under conditions of high life disruption, aggressive humor had a stress-buffering effect in that people who reported using more aggressive humor had less psychological distress. At the highest stress levels, such as during the transition to parenthood, the use of aggressive humor may provide a protective effect, which demonstrates the importance of context.

Although aggressive humor is generally negative, the intended use of humor is often designed to achieve some communicative goal (Hall, 2013). Within romantic relationships, the influence of humor is likely to depend on how it helps partners communicate an attitude, emotion, or relational goal (Hall, 2017). During the transition to parenthood, humor may help men communicate attitudes or emotions about their experience of parenthood. In the current study, we found that men's relationship satisfaction was higher when they used more aggressive humor in the context of having an unplanned pregnancy. When a pregnancy is unplanned, the transition may be less intentional, which could make the experience more stressful. In such stressful situations, adaptive behaviors can mitigate the negative impact of stressful experiences on individuals' relationship

satisfaction (Cohen & Wills, 1985). Aggressive humor displayed by men might be an adaptive behavior. Indeed, men who display more aggressive humor during and following an unplanned pregnancy may have higher relationship satisfaction because it allows them to openly express some of their emotions about handling the challenges of parenthood (Hall, 2017). Past research suggests that one function of humor is to release pent-up tension, stress, and frustration (Thorson & Powell, 1993). Thus, aggressive humor may be one mechanism through which men are able to communicate how they are truly feeling about parenthood and alleviate some of the stress associated with being a new parent. For men, however, we found that if their female partners display aggressive humor, this does not affect men's relationship satisfaction. Aggressive humor use for men, in other words, may result in a double-standard, which might be influenced by men's notions of what is "acceptable feminine behavior" (e.g., Gilbert, 2002). Even men who endorse less traditional gender roles and ideologies often fall into more traditional gender roles, especially during the early stages of the transition to parenthood (e.g., Nomaguchi & Milkie, 2003). Women, therefore, who display more aggressive humor may be outside of what is considered "typical female behavior," resulting in men being less satisfied in their relationships.

Although aggressive humor had short-term benefits for men, relatively long-term change in satisfaction was predicted by their positive use of humor in support interactions. Cast another way, even though expressing more negative emotions may have allowed men to communicate what they were feeling, being able to positively express and deal with a stressful experience was more adaptive over the long-term. Consistent with this, we found that more affiliative humor use by men forestalled declines in their level of relationship satisfaction across the transition. This important finding aligns with other research showing that individuals who use more affiliative humor are more satisfied in their romantic relationships (e.g., Campbell et al., 2008). Affiliative humor displayed by men appears to be especially beneficial for relationship satisfaction, and it could serve as a stress-buffering communicative factor during the transition to parenthood. These findings also align with the SBM by suggesting that humor may be an adaptive behavior that protects relationship satisfaction from decreasing over time. When men in our study exhibited low levels of affiliative humor and reported unplanned pregnancies, they reported fairly pronounced declines in relationship satisfaction. The use of affiliative humor might create a more positive social environment for the relationship, and when couples are transitioning through a chronically stressful period, this type of environment might be vital for sustaining the long-term well-being of most relationships (Aune & Wong, 2002). Moreover, greater use of affiliative humor is associated with more intimacy in romantic relationships, and it is affirming to the self and partners (Martin et al., 2003). Accordingly, when men display more affiliative humor, they may feel more connected to their partners. These findings reveal the importance of using humor in positive ways to help maintain relationship satisfaction across time.

Regardless of the type of humor expressed, there were positive within-time and over-time effects for men, as discussed above. The same was not true of women, however. Several previous studies of couples not undergoing the transition to parenthood have found affiliative humor to be positively related to satisfaction in both sexes

(e.g., Campbell et al., 2008; Cann et al., 2011), but Hall (2013), in a study of married and dating couples, found that affiliative humor has a positive effect on only the relationships of men. Thus, for women, the specific context of the transition to parenthood could have impacted the influence of humor on relationship satisfaction. Our results did, however, reveal one significant within-time effect for women, such that women's use of affiliative humor was positively related to their own level of relationship satisfaction. Women's use of affiliative humor may be a coping strategy to deal with the stress of parenthood and the additional demands it places on their lives (Caird & Martin, 2014; Thorson & Powell, 1993). For women, therefore, humor might also be beneficial to their romantic relationships to the extent that it is an outlet for expressing their feelings and a way to communicate positive emotions to their partners.

Unlike men, however, we found no differences in satisfaction between women who reported planned versus unplanned pregnancies. Regardless of whether or not a pregnancy is planned, women are typically expected to perform their new parenting role competently (Cowan & Cowan, 2000). Moreover, because the division of childcare is usually inequitable (especially early in the transition to parenthood), most women encounter rapidly elevated responsibilities and, thus, greater parenting stress than most fathers do (Dempsey, 2002). Having an unplanned pregnancy, therefore, should have less overall impact on the relationships of new mothers than it does on those of new fathers (Wall & Arnold, 2007).

Likewise, partners' humor use had no effect on women's level of relationship satisfaction. Women's relationship satisfaction may be less dependent on partner characteristics and behaviors because mothers, in particular, face changes in the demands on their time with more focus on family work (e.g., Belsky, Lang, & Huston, 1986) and less with their romantic partner (Claxton & Perry-Jenkins, 2008). Researchers have found the role conflicts women experience, as well as increased workload, are major reasons for relationship dissatisfaction (Twenge et al., 2003). Therefore, the additional focus on childcare and the needs of the new member of the family may be more pertinent to mother's relationship satisfaction than partners' humor use. More studies are needed to disentangle the nature of these associations for men and women.

Regardless of sex differences, however, both partners are affected by the transition to parenthood, and one variable that influences their transition is their pregnancy intention. Post-birth relationship outcomes have been shown to be different for couples based on pregnancy intention (e.g., Cowan & Cowan, 2000); however, few if any other studies have accounted for the variance of pregnancy intention when looking at partner's relationship satisfaction. Doss et al. (2009) in their 8-year prospective study concluded that pregnancy intention was unrelated to post-birth functioning; however, they did not control or account for desire to have children. Not accounting for desire to have children could create problems with interpreting the results because people who had unplanned pregnancies with a high desire to have children are likely to be happier with the pregnancy than those with a low desire to have children (e.g., Rhoads, Simpson, & Friedman, 2006). We found evidence that pregnancy intention (above and beyond the desire to have children) is associated with relationship satisfaction, and, for men, it was a significant predictor of satisfaction across the transition to parenthood. Thus, future studies should examine pregnancy intention while accounting for desire to have children.

This longitudinal study had some limitations. Our sample was largely Caucasian, moderately well-educated, married, and fairly satisfied in their marriages. Given these sample characteristics, the current results may not necessarily generalize to other samples. Our participants were recruited from childbirth classes. Individuals who attend childbirth classes may differ from those who do not in terms of having prepared and educated themselves about the impending birth of their first child. Most data were collected through self-reports, which may have been biased or subject to faulty recall. Specifically, our measure of pregnancy intention was self-reported, and it could have been affected by social desirability concerns. The data are correlational, meaning that no causal inferences can be made. We did not have a group of nonparents against which to compare to our sample of parents. Although the transition to parenthood is stressful, it remains possible that, over time, all married individuals (both parents and nonparents) would show declines in satisfaction. Lastly, we focused on humor production versus humor appreciation, and it may be that appreciation is more closely aligned with relational outcomes.

Despite these limitations, the current study has several important implications. Although previous research has documented declines in relationship satisfaction across the transition to parenthood (e.g., Lawrence et al., 2008), we show that certain adaptive behaviors appear to *buffer* the impact of this stressful event on men's relationship satisfaction, which aligns with the SBM. In men, for example, greater use of affiliative humor appears to forestall declines in their relationship satisfaction. More broadly, different forms of humor may promote or sustain higher levels of relationship satisfaction in men across the chronically stressful transition to parenthood because they serve key communicative functions. Indeed, this information is important because practitioners and educators can use this knowledge to inform couples about the importance of using humor to communicate important attitudes, emotions, and relational goals more effectively. Specifically, when implementing communicative behaviors into couples' conversations, practitioners and educators could demonstrate how specific forms of humor can be used to alleviate distress or communicate true feelings about an experience. Although this information is valuable for practitioners and educators, future research needs to disentangle the question of whether the intention or perception of humor is more influential on relationships and whether or not discrepancies in partners' perceptions of humor is related to relational outcomes.

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Supplemental material

Supplemental material for this article is available online.

Open research statement

As part of IARR's encouragement of open research practices, the author(s) have provided the following information: This research was not pre-registered. The data used in the research are available. The data can be obtained at by emailing: Jaclyn Theisen at jctheis2@illinois.edu. The materials used in the research are available. The materials can be obtained by emailing: Jaclyn Theisen at jctheis2@illinois.edu.

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