

The self-fulfilling prophecy of adolescent social expectations

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Abstract

Adolescents' negative social expectations of their peers were examined as long-term predictors of problematic self-reported social functioning. Early adolescent negative expectations were hypothesized to predict risk-averse functioning in late adolescence that would ultimately contribute to confirmation of those expectations. Utilizing observational data and friend- and self-reports from a community sample of 184 adolescents followed from ages 13 to 25, adolescents with more negative expectations were found to have become increasingly submissive with friends over time and were rated as less romantically appealing by late adolescence (after controlling for baseline levels of these variables, baseline friend-rated social competence and self-reported depressive symptoms). In turn, submissiveness and romantic appeal predicted problematic self-reported social functioning well into adulthood and mediated the relationship between adolescent negative expectations and problematic self-reported adult social functioning. These findings support the possibility of a self-fulfilling social process unfolding from early adolescence to adulthood.

Keywords

adolescence, observational coding, social expectations

Learning to form positive peer and romantic relationships is a key developmental task for adolescents that has been linked to both current functioning and long term psychosocial outcomes (Collins, 1997; Modin, Östberg, & Almquist, 2011). Yet, adolescents do not bring a blank slate to the social relationship realm; rather, they come with potentially powerful expectations of how they are likely to be treated in new relationships (Allen, Chango, & Szewedo, 2013). Longstanding attachment, social cognitive, and cumulative continuity theories each would suggest that adolescents' expectations regarding relationships are likely to have significant influence not only on specific relationships but also on social functioning more generally (Andersen & Chen, 2002; Bowlby, 1980; Caspi, Bem, & Elder, 1989). We know little, however, about how such expectations actually play out in adolescence.

Adolescents who expect negative responses from peers, for example, may be at particular risk for social difficulties. When teens anticipate a negative response after making a mistake, or when asking for help, they may become risk-averse and submissive in social relationships so as to avoid these negative responses. This risk-averse behavior may hinder the development of high-quality, trusting relationships. Such behavior and its consequences would in turn likely have implications extending into adulthood, when relationships deepen and ultimately become critical to physical as well as mental health outcomes (Cacioppo & Cacioppo, 2014). The biggest risk is that negative expectations may give rise to a self-fulfilling prophecy in which the expectations alter behavior in ways that bring about the negative outcomes they predict (Bowlby, 1980).

Peer relationships in late adolescence appear particularly likely to be affected by negative social expectations (Allen & Land, 1999). Although direct studies of negative social expectations in adolescence are rare, a significant body of research in childhood has focused on a related construct: children's negative social attributions and their links to aggression and hostility (Kupersmidt, Stelter, & Dodge, 2011). One type of negative cognition—hostile

attributions regarding others' *motives* in ambiguous situations—appears to play a primary role in the development of aggressive behavior (Dodge et al., 2003). Hostile attributions are a related yet distinct construct from negative expectations, as hostile attributions involve a negative inference about peers' intentions underlying their behavior. Although hostile attributions regarding others' intentions are related to subsequent aggression, an equally problematic sequence may result when adolescents come to expect negative *reactions* from peers. Unlike individuals with hostile attributional biases, individuals who expect negative reactions from peers may not externalize their concerns by becoming aggressive; rather, they may see themselves as at least partly culpable for their peers' expected negative reactions. As a result, they appear more likely to become submissive and take fewer social risks to avoid the potential for rejection (Croft & Zimmer-Gimbeck, 2014; Davies & Martin, 2013).

Submissive behavior in childhood has been associated with negative social consequences ranging from peer rejection and victimization to poorer overall quality of relationships (Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce, & Burgess, 2006; Tom, Schwartz, Chang, Farver, & Xu, 2010). In late adolescence, such submissive behavior is likely to be particularly problematic, as peer relationships become more central, and individuals who fail to assert themselves with their peers may miss out on important socialization experiences (Hartup, 1996). In addition, as peer relationships deepen and become more adult-like, the ability to assert oneself and seek support from friends becomes an increasingly

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central component of social competence (Laursen & Collins, 1994). Older adolescents who expect peer rejection, and thus allow peers to dominate them in order to avoid this rejection, may fail to develop satisfying and balanced relationships in the long term. Cross-sectional research with early adolescents suggests that rejection sensitivity, which measures anticipated distress from rejection along with expectations that such rejection is likely, predicts self-reported self-silencing within friendships, lower friendship support and more obliging behavior in conflicts with friends (Croft & Zimmer-Gembeck, 2014; Thomas & Bowker, 2015). However, we know relatively little about the correlates of observed submissive behavior within adolescent relationships, and virtually nothing about how such behavior might influence social development as late adolescents move into adulthood.

Negative expectations regarding peer interactions also have the potential to influence another crucial developmental challenge of late adolescence: navigating romantic relationships. If adolescents consistently behave submissively and avoid risks in social interactions (e.g., avoiding self-disclosure) to prevent peer rejection, they are likely to become less appealing socially (McElhane, Antonishak, & Allen, 2008). This may be particularly true in uncertain contexts such as managing romantic relationships, in which more assertive and outgoing adolescents appear to be at an advantage (Hafen, Spilker, Chango, Marston, & Allen, 2014; Miller et al., 2009). Risk-averse adolescents may be at a disadvantage romantically because they are less visible in the peer group and less confident in taking social chances, for example by asking someone out. A link between negative expectations and romantic appeal seems most likely to appear during late adolescence, when the stakes grow higher in romantic relationships and adolescents may begin to experience romantic rejections that reinforce their negative expectations (Downey, Bonica, & Rincon, 1999; Furman & Winkles, 2010). By late adolescence, individuals on the track of expecting and taking fewer chances in order to avoid rejection will likely be seen as less romantically appealing than their more confident peers. This may then, in turn, hinder the development of intimate relationships and ultimately have negative consequences for their adult social functioning.

Research on several related constructs provides support for the idea that negative expectations can undermine future romantic relationships. For example, in short-term studies within young adulthood, rejection sensitivity has been found to predict partner dissatisfaction and breakup in romantic relationships (Downey, Freitas, Michaelis, & Khouri, 1998; Romero-Canyas, Downey, Berenson, Ayduk, & Kang, 2010). Similarly, self-report studies have linked adolescents' social anxiety to their own ratings of low romantic appeal, although the self-report confounds make it difficult to fully assess the nature of this link (La Greca & Lopez, 1998).

Overall, several different lines of theory and research converge to suggest that adolescents' negative social expectations may have long-term implications for late adolescent and adult social functioning. The current study used longitudinal, multimethod data obtained from adolescents and their closest peers to examine how early negative social expectations might contribute to increased submissiveness with friends and decreased friend-rated romantic appeal that, in turn, might contribute to self-perceived social functioning in adulthood. It was specifically hypothesized that adolescents with negative social expectations would: (1) develop an altered pattern of functioning by late adolescence, demonstrated by increased observable submissiveness with friends and (2) lower friend-reported romantic appeal; and (3) report problematic social

relationship functioning in adulthood. It was also hypothesized that: (4) submissiveness and lower romantic appeal in late adolescence would each uniquely contribute to poorer self-perceived adult social functioning; and (5) these intermediate outcomes would mediate the link between negative adolescent social expectations and problematic self-perceived adult social functioning.

Since both gender and family income have been associated with social functioning in adolescence (Bradley & Corwyn, 2002; Rose & Rudolph, 2006), these demographic variables were included as covariates in all analyses, two-way interactions with these variables were also tested for all regression analyses. To ensure that negative social expectations were not merely reflecting accurate perceptions of poor social skills, teens' social competence, as rated by close friends in early adolescence, was included as a covariate in all analyses. In addition, to ensure that early adolescent depressed affect was not driving both negative cognitions and less adaptive social processes, teens' self-reported depressive symptoms at age 13 were included in all analyses. These outcomes were all considered within a diverse community sample followed longitudinally from early adolescence through early adulthood.

Method

Participants and procedure

This report is drawn from a larger longitudinal investigation of adolescent social development in familial and peer contexts. The original full sample included 184 seventh- and eighth-graders (86 male and 98 female; age range = 12.04–14.55 years; $M = 13.35$, $SD = 0.64$). The sample was racially/ethnically and socioeconomically diverse: 107 adolescents (58%) identified themselves as Caucasian, 53 (29%) as African American, 15 (8%) as of mixed race/ethnicity, and 9 (5%) as being from other minority groups. Adolescents' parents reported a median family income in the \$40,000–\$59,999 range. Median income for all US families in the first year of the study (1998) was \$38,885 and for the state in which the study took place the median income was \$42,622 (U.S. Census Bureau, 2013). Of the sample's families, 61 (33.33%) were living at or below 200% of the federal poverty line for that year. Adolescents' mothers ($N = 173$) reported completing the following levels of education: less than high school (3.98%) high school or equivalent (19.32%), some college or technical training beyond high school (27.84%), associate's degree (6.25%), bachelor's degree (15.34%), some graduate work (7.39%), or post college degree (19.89%). Adolescents' fathers ($N = 108$) reported completing the following levels of education: less than high school (7.27%), high school or equivalent (13.64%), some college or technical training beyond high school (20%), associate's degree (4.55%), bachelor's degree (15.45%), some graduate work (7.27%), or post college degree (31.82%). About half (54.91%) of the adolescents' mothers reported that they were currently married to the target adolescent's father in the first year of the study.

Adolescents were originally recruited from the seventh and eighth grades at a public middle school drawing from suburban and urban populations in the southeastern United States. Students were recruited via an initial mailing to all parents of students in the school along with follow-up contact efforts at school lunches. Adolescents who indicated they were interested in the study were contacted by telephone. Of all students eligible for participation, 63% agreed to participate either as target participants or as peers providing collateral information. All interviews took place in private offices within a university academic building. Participating

adolescents provided informed assent, and their parents provided informed consent until adolescents were 18 years of age, at which point they provided informed consent. The same assent/consent procedures were used for peers and their parents. Participants and close friends were paid for their participation. For the purposes of the present study, data were drawn from three time ranges: At an early adolescent assessment (M age = 13.35, SD = 0.64; Range = 12.04–14.55), again at a late adolescent assessment (M age = 18.36, SD = 0.96; Range = 15.36–20.43), and finally in early adulthood (M age = 24.22, SD = 0.96; Range = 21.87–26.64).

At the late adolescent assessment, 174 (94.6%) of the original teens participated. Compared to the 184 original adolescents, analyses indicated no significant differences between those who did versus did not participate in late adolescence on gender, family income, minority status, or initial levels of the variables measured. Of the 174 participating late adolescents, 161 participated in early adulthood (92.5%). Compared to the 174 participants, analyses indicated no significant differences between those who did versus did not participate in early adulthood on any demographic variables or initial levels of other variables measured. Compared to the initial 184 early adolescent sample, males were slightly less likely to participate in early adulthood ($t = -2.45, p = .02$). In all, 13 males and 5 females from the original sample did not have early adulthood data. There were no other significant differences between the original sample and the early adulthood sample.

At each adolescent wave of data collection, participants nominated their closest friend to be included in the study. Close friends were defined as “people you know well, spend time with, and whom you talk to about things that happen in your life.” For participants who had difficulty naming close friends, it was explained that naming their “closest” friends did not mean that they were necessarily close to these friends in an absolute sense, but that they were close to these friends relative to other acquaintances they might have. Close friends could not be romantic partners. Of the 184 early adolescents who participated in the age 13 data collection, 172 of their closest friends participated. The close friends selected at age 13 reported that they had known the adolescents for an average of 4.07 years ($SD = 2.94$). Of the 174 adolescents who participated in late adolescence, 167 of their closest friends participated. The close friends selected in late adolescence reported that they had known the adolescents for an average of 6.9 years ($SD = 3.57$). Only 31 (16.85%) of target teens brought the same close friend from the age 13 data collection to the late adolescent data collection. There were no differences between those participants who did versus those who did not have close friends participate in early or late adolescence on any demographic measure or initial levels of the variables of interest. To further test the hypothesis that all data was missing completely at random (MCAR), Little’s (1988) Chi-Square Test of MCAR was conducted in SAS 9.4 using all of the study variables. Results failed to reject the null hypothesis that all data was missing completely at random (Chi-Square=702.048, $df = 656, p > .10$). All analyses were conducted in MPlus version 7.11, using full information maximum likelihood.

Measures

Early adolescent control variables

Friend-rated social competence (age 13). Close friends’ perceptions of target teens’ interpersonal competence at age 13 were measured using the 40-item Adolescent Interpersonal Competence

Questionnaire (AICQ; Buhrmester, 1990). Respondents rated their friend regarding interpersonal situations from 1 (Poor at this; would be so uncomfortable and unable to handle this situation that it would be avoided if possible) to 5 (Extremely good at this; would feel very comfortable and could handle this situation well). There are five domains (relationship initiation, asserting influence, self-disclosure, conflict resolution, and emotional support). For the purpose of this study, the summary scale of all domains was used. The AICQ has good internal consistency and is related to sociability, low hostility, and low levels of anxiety and depression (Buhrmester, 1990) Internal consistency for the summary scale was excellent (Cronbach’s $\alpha = 0.95$).

Depressive symptoms (age 13). Target adolescents reported on their depressive symptoms using the Childhood Depression Inventory (CDI). The CDI is a 27-item inventory based on the Beck Depression Inventory (Kovacs & Beck, 1977). The CDI has high internal consistency, moderate test retest reliability (from 1 week up to 6 months), good discriminant validity, and correlated with related constructs such as self-esteem, hopelessness, and negative cognitive attributions (Kazdin, 1990). Internal consistency in this sample was good (Cronbach’s $\alpha = 0.85$).

Early adolescent social expectations

Negative social expectations (Age 13). Adolescents’ social expectations were assessed at age 13 using the Children’s Expectations of Social Behavior Questionnaire (CESBQ; Rudolph, Hammen & Burge, 1995). This measure consists of 15 hypothetical vignettes in which teens are asked to imagine themselves interacting with peers (e.g., “You’re working on a group project with some other kids at school and you make a suggestion for something that you could all do. What do you think they might say?”). For each vignette, teens were asked to indicate whether they expected an accepting peer response (e.g., “They might try it out to see if it would work,” scored 0), an indifferent response (e.g., “They might just pretend that I didn’t say anything and ignore my idea,” scored 1), or a hostile response (e.g., “They might laugh and say that it was a pretty stupid idea,” scored 2). The scores were then summed, with higher scores representing teens’ more negative expectations of peers’ behavior towards them. The current study had good internal consistency for this measure (Cronbach’s $\alpha = 0.75$).

Observed and friend-reported adolescent peer functioning

Submissiveness with friends (Ages 13 and 18–19). Submissiveness when help-seeking was assessed via an 8-min supportive behavior interaction task with adolescents and their close friends at age 13 and again at either age 18 or 19 (mean age = 18.33), during which the target teen asked the friend for help with a “problem they were having that they could use some advice or support about.” Typical topics included relationship troubles, choosing classes, and problems at work. These interactions were coded using the Supportive Behavior Coding System (Allen et al., 2001), which was based on several related systems (Crowell et al., 1998; Julien et al., 1997). Submissiveness was reliably coded as the degree to which the teen’s friend, and not the teen, was “in charge” of the interaction (i.e., who determines what is said in the discussion). Scores are determined based on talking time and agenda setting, with higher scores reflecting lower levels of teen direction of the interaction. This was coded using an average of the scores obtained by two trained raters blind to other data from the study, with good reliability using Cicchetti & Sparrow’s (1981) criteria for this

statistic (Age 13 intraclass correlation = .73; age 18–19 = .69–.75). Scores ranged from 0 (teen completely dominated the conversation) to 4 (friend completely dominated the conversation). In a highly submissive interaction about the teen's problem, the friend would do the majority of the talking, introduce new ideas, begin and close the discussion, and the teen would seem completely swayed by the friend's ideas.

Friend-reported romantic appeal

Romantic Appeal (Ages 13 and 18–19). Close friend reports of the adolescents' romantic appeal at ages 13 and again at ages 18–19 were assessed using a modified version of the Adolescent Self-Perception Profile (Harter, 1985). The 4-item romantic appeal subscale captures the extent to which close friends consider teens to be romantically desirable and successful compared to other adolescents. An example item is: "Some people feel if they 'like' someone (in a romantic way) that person will like them back BUT some people feel if they 'like' someone (in a romantic way) that person won't like them back." Throughout the study, internal consistency for this scale ranged from Cronbach's $\alpha = 0.61$ (age 13) to .76 (age 19). In the current sample, adolescents' whose friends rated them as less romantically appealing at age 13 were significantly less likely to report starting to date by age 13 ($t = -3.07, p = .003$). Adolescents whose friends rated them as less romantically appealing at ages 18–19 were also significantly less likely to report that they had started dating by age 19 ($t = -4.60, p = .001$).

Self-perceived adult social functioning

Intimate Relationships and Sociability (Ages 24–25). Adults' self-perceptions of the quality of their intimate relationships and sociability were assessed using the Adult Self-Perception Profile (Messer & Harter, 1986). For the purposes of this study, the 4-item intimate relationships and sociability subscales were combined and averaged across ages 24 and 25 to capture broad self-reported social functioning in adulthood. The average correlation between these two subscales across ages 24 and 25 was .59 ($p < .001$). Example items include: "Some adults find it hard to establish intimate relationships BUT other adults do not have difficulty establishing intimate relationships," (intimate relationships); and "Some adults feel that they are enjoyable to be with BUT other adults often question whether they are enjoyable to be with," (sociability). Internal consistency for the combined scale was excellent (Cronbach's $\alpha = 0.94$).

Results

Preliminary analyses

Table 1 displays means, standard deviations, and correlations for the variables used in the study. Both adolescent gender and family income were found to be significantly correlated with the predictor of interest (negative social expectations); thus, they were included as covariates in all subsequent analyses.

Hypothesis 1: Teens with negative social expectations in early adolescence will develop an increasingly submissive style of interacting with friends by late adolescence.

To address this hypothesis, a hierarchical regression was examined predicting observed submissiveness in a supportive behavior interaction task with close friends at ages 18–19. Adolescent gender

and family income at age 13 were entered first, followed by observed submissiveness, friend-reported social competence and self-reported depressive symptoms at ages 13, followed by negative social expectations at age 13. This approach of predicting the future level of a variable, such as observed submissiveness, while accounting for predictions from initial levels (e.g., stability) yields one marker of change in that variable: increases or decreases in future submissiveness relative to predictions from baseline levels (Cohen & Cohen, 1983). Table 2 presents results in which negative social expectations at age 13 predicted relative increases in submissiveness with friends at ages 18–19, after accounting for family income, observed submissiveness at 13, social competence, and depressive symptoms at age 13 ($\beta = .25, p < .01$; 95% CI = $0.07 \leq \beta \leq 0.43$).

Hypothesis 2: Teens with negative social expectations in early adolescence will be considered increasingly less romantically appealing by close friends by late adolescence.

A hierarchical regression next examined predictions of friend-reported romantic appeal at ages 18–19. Adolescent gender and family income at age 13 were entered first, followed by friend-reported romantic appeal, friend-reported social competence and self-reported depressive symptoms at age 13, followed by negative social expectations at age 13. Results are presented in Table 2 and indicate that teens with negative expectations of peers at 13 were rated as increasingly less romantically attractive by late adolescence, according to their close friends' reports ($\beta = -.24, p < .01$; 95% CI = $-0.42 \leq \beta \leq -0.06$).

Hypothesis 3: Negative social expectations in early adolescence will be negatively associated with self-reported social functioning in adulthood.

A hierarchical regression next examined predictions of self-perceived adult social functioning. Adolescent gender and family income at age 13 were entered first, followed by age-13 levels of observed submissiveness and friend-rated romantic appeal, friend-rated social competence and self-reported depressive symptoms at age 13, and then followed by negative social expectations at age 13. Results are presented in Table 3 and show that negative social expectations at age 13 negatively predicted self-reported intimate relationships and sociability at ages 24–25, even after accounting for adolescent gender, family income, baseline levels of observed submissiveness and friend-rated romantic appeal, friend-rated social competence and depressive symptoms at age 13 ($\beta = -.21, p < .05$; 95% CI = $-0.37 \leq \beta \leq -0.05$). This suggests a negative relationship between negative peer expectations in early adolescence and self-perceived social functioning in early adulthood.

Hypothesis 4: Observed submissiveness with friends and friend-rated romantic appeal in late adolescence will each uniquely contribute to self-perceived adult social functioning.

In order to determine if the late adolescent outcomes of negative social expectations also contributed to self-perceived adult social functioning, a hierarchical regression next examined predictions of adulthood intimate relationships and sociability. Adolescent gender and family income at age 13 were entered first, followed by age-13 levels of observed submissiveness, friend-reported romantic appeal, friend-rated social competence and self-reported depressive symptoms, followed by late adolescent levels of observed

Table 1. Means, standard deviations, and intercorrelations of substantive variables.

	Possible range	Mean	SD	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Neg. social expectations(age 13)	0–30	3.36	3.72	–.09	.41***	–.07	.25***	.14	–.17*	–.29***	–.22**	–.20**
2. Social competence (age 13)	40–200	139.04	65.03	–	–.06	–.00	–.02	.05	.04	.10	–.01	.04
3. Depression (age 13)	0–54	5.07	4.30		–	–.04	.17*	.01	–.01	–.26***	.06	–.11
4. Submissiveness with peers (age 13)	0–4	1.90	0.68			–	.04	.02	–.07	.06	–.15*	.08
5. Submissiveness with peers (age 18–19)	0–4	1.91	0.41				–	.07	–.12	–.24**	–.10	.18*
6. Romantic appeal (age 13)	4–16	11.20	2.80					–	.06	.18*	–.09	–.06
7. Romantic appeal (age 18–19)	4–16	11.94	2.05						–	.31***	–.05	–.04
8. Intimate relationships and sociability (age 24–25)	4–16	12.70	2.23							–	.05	.13
9. Adolescent gender ¹	–	–	–								–	–.11
10. Family income	2,500–>70,000	43,600	22,400									–

Note. **p* < .05; ***p* < .01; ****p* < .001. Full sample *N* = 184. 11 = male; 2 = female.

Table 2. Hierarchical regression analyses predicting observed submissiveness and friend reported romantic appeal (age 18–19) from negative social expectations (age 13).

	Observed submissiveness (18–19)					Friend-reported romantic appeal (18–19)						
	β (entry)	β (final)	SE	95% CI	ΔR^2	Total <i>R</i> ²	β (entry)	β (final)	SE	95% CI	ΔR^2	Total <i>R</i> ²
Step 1.												
Gender ¹	–.09	–.03	.08	–0.19 ≤ β ≤ 0.13			–.06	–.12	.08	–0.28 ≤ β ≤ 0.04		
Total family income (age 13)	.18*	.22**	.08	0.06 ≤ β ≤ 0.38			–.04	–.08	.08	–0.24 ≤ β ≤ 0.08		
					.044	.044					.004	.004
Step 2.												
Baseline measure of outcome (age 13)	.03	.04	.09	–0.14 ≤ β ≤ 0.22			.01	.04	.08	–0.12 ≤ β ≤ 0.20		
Social competence (age 13)	–.02	–.00	.08	–0.16 ≤ β ≤ 0.16			.05	.04	.08	–0.12 ≤ β ≤ 0.20		
Depression (age 13)	.19*	.09	.08	–0.07 ≤ β ≤ 0.25			.03	.13	.09	–0.05 ≤ β ≤ 0.31		
Step 3.												
Negative social expectations (age 13)	.25**	.25**	.09	0.07 ≤ β ≤ 0.43	.030	.074	–.24**	–.24**	.09	–0.42 ≤ β ≤ –0.06	.005	.009
					.049***	.123*					.043*	.052

Note. **p* < .05; ***p* < .01; ****p* < .001. Full sample *N* = 184. ¹1 = male; 2 = female.

Table 3. Hierarchical regression analyses predicting intimate relationships and sociability (ages 24–25) from negative social expectations (age 13).

	β (entry)	β (final)	SE	95% CI	ΔR^2	Total <i>R</i> ²
Step 1.						
Gender ¹	.06	.05	.07	–0.09 ≤ β ≤ 0.20		
Total family income (age 13)	.13	.08	.07	–0.06 ≤ β ≤ 0.22		
					.019	.019
Step 2.						
Social competence (age 13)	.07	.06	.07	–0.08 ≤ β ≤ 0.20		
Submissiveness (age 13)	.03	.01	.08	–0.15 ≤ β ≤ 0.17		
Romantic appeal (age 13)	.20**	.22**	.07	0.09 ≤ β ≤ 0.36		
Depression (age 13)	–.27***	–.17**	.08	0.012 ≤ β ≤ 0.33		
					.117***	.136**
Step 3.						
Negative Social Expectations (age 13)	–.21*	–.21*	.08	–0.37 ≤ β ≤ –0.05		
					.024*	.160*

Note. **p* < .05; ***p* < .01; ****p* < .001. Full sample *N* = 184. 11 = male; 2 = female.

Table 4. Hierarchical regression analyses predicting intimate relationships and sociability (ages 24–25) from observed submissiveness and friend reported romantic appeal (age 18–19).

	β (entry)	β (final)	SE	95% CI	ΔR^2	Total R^2
Step 1.						
Gender ¹	.06	.10	.07	$-0.04 \leq \beta \leq 0.24$		
Total family income (age 13)	.13	.15*	.07	$0.02 \leq \beta \leq 0.29$.019	.019
Step 2.						
Social competence (age 13)	.07	.04	.07	$-0.11 \leq \beta \leq 0.18$		
Submissiveness (age 13)	.03	.04	.08	$-0.12 \leq \beta \leq 0.20$		
Romantic appeal (age 13)	.20**	.21**	.07	$0.07 \leq \beta \leq 0.35$		
Depression (age 13)	-.27***	-.22**	.07	$-0.36 \leq \beta \leq -0.08$.117***	.136**
Step 3.						
Submissiveness (age 18–19)	-.22**	-.22**	.08	$-0.38 \leq \beta \leq -0.06$		
Romantic Appeal (age 18–19)	.20**	.20**	.07	$0.06 \leq \beta \leq 0.34$.104**	.221***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Full sample $N = 184$. 11 = male, 2 = female.

submissiveness and friend-reported romantic appeal entered simultaneously. Results are presented in Table 4 and suggest that late adolescent submissiveness ($\beta = -.22$, $p < .01$; 95% CI = $-0.38 \leq \beta \leq -0.06$) and romantic appeal ($\beta = .20$, $p < .01$; 95% CI = $0.06 \leq \beta \leq 0.34$), each uniquely contributed to adulthood intimate relationships and sociability, even while accounting for adolescent gender, family income, earlier levels of submissiveness, romantic appeal, social competence, depressive symptoms and covariance between the predictor variables of interest. These results suggest that behaving submissively with close friends and appearing less romantically appealing to close friends in late adolescence each uniquely and predict self-perceived social functioning in early adulthood.

Hypothesis 5: Observed submissiveness with friends and lower friend-rated romantic appeal in late adolescence will mediate the link between adolescent social expectations and self-perceived adult social functioning.

To determine the extent to which the late adolescent processes together mediated the association between negative social expectations and self-perceived adult social functioning, a multiple mediation model was used (Imai, Keele, Tingley, & Yamamoto, 2011). The model included both friend-rated romantic appeal and submissiveness in late adolescence as potential mediators of a link between negative expectations in early adolescence and adult self-perceived social functioning. Early adolescent submissiveness, friend-rated romantic appeal and social competence, depressive symptoms gender, and family income were included in the model. The total indirect effect with both mediators in the model was examined first, which is the extent to which submissiveness and romantic appeal, taken together, mediate the association between early negative social expectations and self-perceived adult social functioning. Next, it was explored whether each process on its own mediated the link, while controlling for the other processes as well as gender, family income, age 13 levels of the processes, friend-rated social competence and self-reported depressive symptoms at age 13. As shown in Figure 1, submissiveness and romantic appeal, taken together, mediated the association between early negative social expectations and later self-perceived adult social functioning ($\beta = -.10$, $p = .03$; 95% CI: lower = $-.19$, upper = $-.01$).

Looking at each individual mediator's effect on the outcome, it was found that the 95% confidence interval of submissiveness as a mediator contained zero, ($\beta = -.06$; 95% CI: $-.12$ to $.01$). The 95% confidence interval of romantic appeal also contained zero, ($\beta = -.05$; 95% CI: $-.11$ to $.01$). This means that while the two late adolescent processes of submissiveness and romantic appeal together are accounting for the link between early negative social expectations and self-perceived adult social functioning, it was not possible to disaggregate the *unique* mediating effect of either variable in this model.

Follow-up analyses. Because the length of time an adolescent has known a close friend may play an important role in whether he or she allows the friend to dominate a conversation, the length of time the friend reported knowing the teen at data collection was added as a covariate in the prediction of observed submissiveness in late adolescence. The length of time the friend reported knowing the teen was not related to submissiveness at late adolescence ($\beta = -.04$) and after the addition of this variable the same pattern of statistically significant results emerged.

To further test the external validity of our findings, we examined preliminary correlations between early adolescent negative expectations and romantic partner relationship behavior in late adolescence ($M_{\text{participant age}} = 18.33$, $SD = 0.95$; Range = 15.36–21.64), using an observed disagreement task (Allen, Hauser, Bell, & O'Connor, 1994; Allen et al., 2000). Early adolescent negative expectations predicted higher romantic partner autonomy-undermining behavior, such as pressuring and personal attacks, after controlling for participant gender and family income ($\beta = .34$, $p = .007$). However, due to the small sample size for those adolescents who were in significant romantic relationships in late adolescence and whose partners participated in our study ($N = 70$), we did not include these variables in the main portion of the study.

Discussion

This study provides evidence for a self-fulfilling prophecy effect in which early adolescent social expectations set the stage for social functioning across adolescence and into adulthood. Early adolescents who expected peers to treat them poorly in social situations

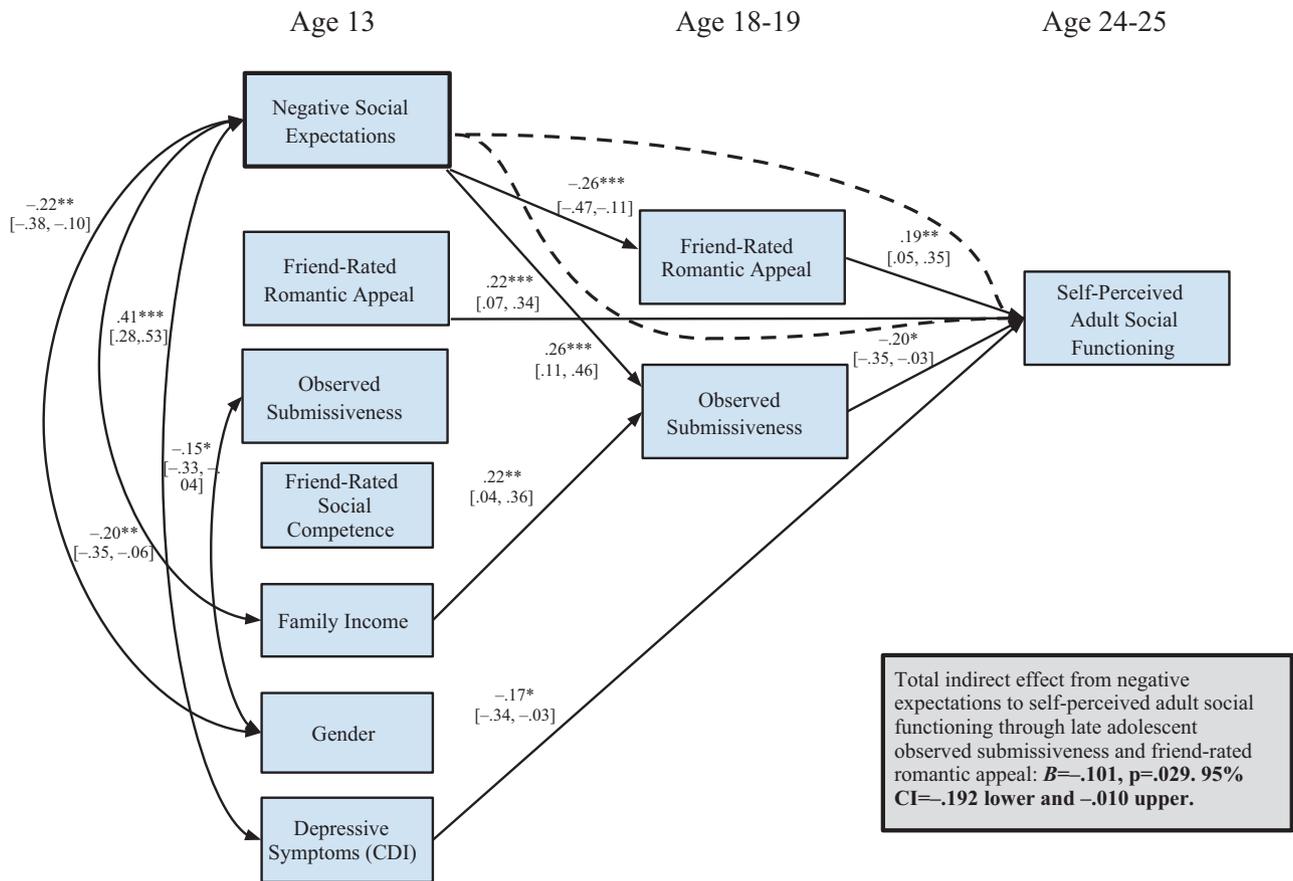


Figure 1. Direct and indirect effects from negative social expectations at age 13 to self-perceived adult social functioning, as mediated by observed submissiveness and friend-reported romantic appeal. Full sample $N = 184$.

became, by the end of adolescence, increasingly less romantically appealing according to close friends. In addition, negative expectations also predicted observed increases in submissiveness with close friends by late adolescence. Submissiveness and romantic appeal, in turn, uniquely predicted self-perceived social functioning by early adulthood. Submissiveness and romantic appeal in late adolescence mediated the link between early social expectations and self-perceived adult social functioning. Taken together, these findings are consistent with an explanation that adolescents who acted on negative social expectations by becoming submissive or risk averse in social situations had poorer self-perceived social relationships by adulthood than those with more positive expectations, thus fulfilling their initial low expectations. Each of these findings is discussed in turn below.

Teens with more negative social expectations relative to peers were found to develop an increasingly submissive style of interacting with friends in late adolescence during a supportive behavior task. This suggests that expecting hostility and rejection earlier in life may lead teens to avoid risks by allowing friends and others to set the agenda during conversations. Notably, predictions from prior negative expectations to late adolescent submissive behavior with friends were found even after accounting for baseline levels of submissiveness. Negative expectations were thus predicting not simply continuity in a problematic approach to social relationships, but the development or exacerbation of such an approach over time in late adolescence. In the context of a help-seeking task, these

findings suggest that the adolescent may be missing out on needed support and advice from friends in ways that may help explain predictions to future problematic self-perceived adult functioning.

Friends reported that teens with initial negative social expectations also became less romantically appealing by late adolescence. One possible explanation is that adolescents were behaving in less outgoing, more withdrawn, or otherwise risk-averse ways that made them less immediately desirable as partners (Pellegrini & Bartini, 2001). For many, the late adolescent years are the period during which more serious romantic relationships begin to develop (Arnett, 2000). If teens are considered less romantically attractive by those closest to them during this period, they could experience far-reaching difficulties, as suggested by the link in this study to self-perceived adulthood intimate relationships. Future studies might examine what specifically makes teens with negative social expectations less attractive in this arena.

By controlling for initial levels of social competence, submissiveness, and romantic appeal in the analyses, compelling evidence surfaces that adolescents with negative expectations are not just behaving in accordance with accurate expectations (i.e., that others will continue to reject them based on their poor social functioning), but are in fact behaving in a pattern that is consistent with a self-fulfilling prophecy. Adolescents with negative expectations became increasingly submissive and less romantically appealing, even relative to measures of where they started with regard to both constructs. In addition, evidence was found for long-term (11–12

years) associations of early negative social expectations with self-perceived adult sociability and intimate relationship functioning while controlling for several indicators of early adolescent social functioning. These findings are consistent with social-cognitive and attachment perspectives on behavior, in that teens who expect hostility and/or rejection appear to alter their behavior based on these expectations, which in turn may elicit responses from others that confirm these initial expectations.

These findings suggest that understanding patterns of expectations and social sequelae may be crucial to understanding the development of healthy versus maladaptive social functioning across the lifespan. A common and adaptive pattern of development is for adolescents to become more confident and develop deeper, more fulfilling relationships over time (Laursen & Collins, 1994). However, some adolescents do not follow this pattern. These results specifically suggest one path, linked to early adolescent cognitive processes, which may predict problematic social relationships. If the causal theories that are consistent with (though not definitively established by) these data are supported by future research, they would suggest the potential long-term value of cognitive therapy approaches that seek to alter negative expectations in social situations (Beck, Rush, Shaw, & Emery, 1979). Notably, however, the current findings were obtained in a normative community sample, suggesting that interventions even with non-clinically referred adolescents may have potential in preventing negative social outcomes later in life. More research examining *specific* behavioral outcomes of negative expectations could help untangle the processes that allow these patterns to develop and maintain themselves over time.

There are several important limitations to this study. First, because the data are not experimental, they can only disconfirm but cannot directly confirm the existence of any causal processes. Although the longitudinal, multimethod approach employed allowed examination of predictors of relative changes in observable behavior, it is plausible that some other variable, such as childhood maltreatment or psychopathology, was underlying both negative expectations and the social outcomes observed. Although this study controlled for initial levels of social competence, it is possible that some early negative experiences do not have a detectable influence on social behavior until later in development. Another limitation is that the amount of variance accounted for in the outcomes tested in the study's models was relatively small (5% to 22%). This suggests that the models are capturing a part of the variation in submissiveness, romantic appeal, and self-perceived adult social functioning, but that other variables also play a large part. Next, when tested together, observed submissiveness and friend-rated romantic appeal mediated the link between early adolescent negative expectations and self-perceived adult social functioning, yet neither mediator was significant on its own. This complicates the interpretation of the mediation finding, such that it is not clear how each individual mediator functions to explain the direct effect. In addition, while the analyses controlled for friends' perceptions of the adolescent's romantic appeal and social competence at age 13, it was not possible to control for a direct parallel of self-perceived adult social competence, as defined by the outcomes of intimate relationships and sociability. Early adolescents do not normatively develop romantic relationships with the same degree of intimacy and intensity as adults. Therefore, although we are able to predict adult competence after accounting for our best parallel measure from adolescence, this is not equivalent to directly predicting change over time in competence. Finally, the measure of

submissiveness used in this study, while it has been found to correlate with other measures of less confident self-perceptions in our data set (e.g., lower self-perceived social acceptance and greater self-perceived pressure to fit in), has not been used in published research to date.

Next, the sample was a community-based, non-clinical population; thus, the findings may not generalize to adolescents with more serious psychopathology and more extreme difficulties with social interactions. Finally, although the evidence suggests that negative expectations in early adolescence predict a variety of poor outcomes, this study did not include assessments prior to age 13 and thus cannot determine the possible causes of these initial expectations. Based on prior research and theory, it is reasonable to speculate that such expectations may come from some combination of negative family experiences (Baldwin, 1992), negative peer experiences (London, Downey, Bonica, & Paltin, 2007), or child characteristics such as temperament (Yoo, & Reeb-Sutherland, 2013). Regardless of how these initial expectations were formed, however, they were linked to observable changes in the adolescents' behavior, which in turn predicted how adolescents later perceived themselves functioning in social relationships well into the future. Further efforts to understand the sources and the factors that maintain or help revise such negative expectations are clearly needed. This study provides key data on the role that social expectations may play as a self-fulfilling prophecy in adolescent development. Future work can further explore the causes, mechanisms, and malleability of such expectations from adolescence through adulthood.

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