Development of self-protective biases in response to social evaluative feedback

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Adolescence is a developmental period marked by heightened attunement to social evaluation. While adults have been shown to enact self-protective processes to buffer their self-views from evaluative threats like peer rejection, it is unclear whether adolescents avail themselves of the same defenses. The present study examines how social evaluation shapes views of the self and others differently across development. $N = 107$ participants ages 10–23 completed a reciprocal social evaluation task that involved predicting and receiving peer acceptance and rejection feedback, along with assessments of self-views and likability ratings of peers. Here, we show that, despite equivalent experiences of social evaluation, adolescents internalized peer rejection, experiencing a feedback-induced drop in self-views, whereas adults externalized peer rejection, reporting a task-induced boost in self-views and deprecating the peers who rejected them. The results identify codeveloping processes underlying why peer rejection may lead to more dramatic alterations in self-views during adolescence than other phases of the lifespan.

social development | self-views | social evaluation | rejection | self-enhancement

Interactions with peers naturally engender social evaluation, a normative social experience that helps people learn to become competent group members. While peer rejection that is prolonged or extreme can give rise to negative self-views that persist over time (1), adults generally protect themselves from these pernicious effects by engaging cognitive processes that facilitate the maintenance of positive self-views (i.e., self-protective biases) (2). However, it is currently unclear how self-protective biases develop and whether adolescents, who exhibit heightened sensitivity to peer evaluation (3), are able to draw upon these same defenses.

When faced with threats to the self, such as feedback of failure or social rejection, adults exhibit compensatory behaviors that help them buffer and enhance their self-views (4–6). Adults have been shown to blame negative feedback on external (e.g., bad luck) rather than internal sources (e.g., ability) (7) and to devalue the source of feedback to challenge its importance (8). Researchers have also found that adults make less favorable appraisals of others (5, 9, 10) and show antagonistic or retaliatory behavior toward others following negative feedback (11). This collection of self-protective processes is theorized to maintain favorable self-views and is broadly linked with improved well-being (12). While adults benefit from this self-protective bias in the face of negative evaluation, it is unclear how this process develops across the lifespan.

Adolescence is a period of development characterized by an increase in social attunement and concern with being accepted by peers (3, 13). Previous research has revealed that adolescents, compared with children and adults, are especially oriented to recognize negative socioemotional cues (14) and are prone to intensified emotional and stress responses to peer evaluation (15–18). Thus, adolescence may be a time in which individuals are especially vulnerable to the impact of peer rejection on self-views. Given adolescents' heightened sensitivity to rejection and the sharp rise in onset of mental illness during adolescence (19), it is important to understand how adolescents process and integrate social evaluation into their views of self and others.

The present study investigates whether adolescents employ self-protective processes by using a well-validated paradigm that has been shown to elicit genuine experiences of social evaluation (20–23). Participants spanning preadolescence through young adulthood ($n = 107$; ages 10–23) were told they were taking part in a multisite study investigating how individuals formulate first impressions of peers. This cover story set up a reciprocal social evaluation task (Fig. 1) in which participants predicted whether each peer would like them, and subsequently received feedback indicating whether the peer liked or disliked the participant. Before and after the task, participants evaluated the likability of each peer and completed a self-esteem questionnaire (24–26).

This diverse dataset enabled analyses targeting age-related differences in how individuals process these evaluative feedback experiences on several levels. In the domain of self-views, we evaluated expectations of being liked or disliked across development using both explicit (i.e., participants' predictions) and implicit (i.e., associated response time) measures. We also examined age-related differences in the extent to which participants' self-views were enhanced or diminished following the social evaluation task.

Additionally, we aimed to identify developmental differences in the degree to which participants updated impressions of peers following social evaluation by having participants rate the likability of each peer before and after the task. Analyses examined whether participants' ratings of peers changed in accordance with being accepted or rejected (i.e., liking an individual more after they had provided positive feedback; liking them less after they had provided negative feedback).

Significance

The growing popularity of social media, especially among youth, has resulted in peer feedback (including rejection) pervading everyday life. Given that peer ostracism has been linked to depression and suicide, it is critical to understand the psychological impact of peer feedback from a developmental perspective. We demonstrate that adolescents and adults use peer feedback to inform views of themselves and of others in very different ways. Of particular interest, early adolescents internalized rejection from peers and felt worse about themselves, whereas adults exhibited evidence of self-protective biases that preserved positive self-views. This work advances theoretical insights into how development shapes social-evaluative experiences and informs sources of vulnerability that could put adolescents at unique risk for negative mental health outcomes.

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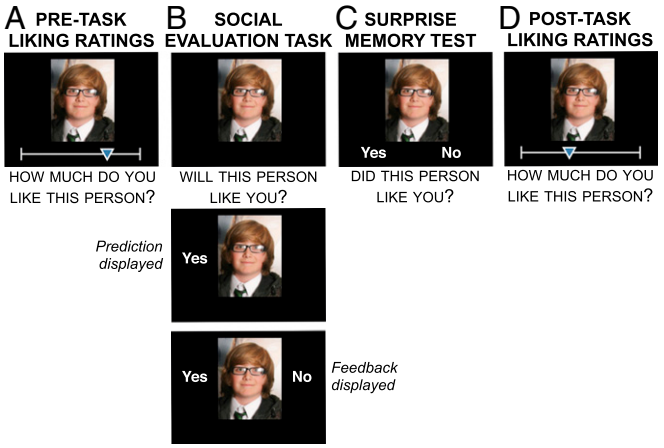

Fig. 1. Schematic representation of experimental task. Before the study visit, participants submitted a photograph that was ostensibly sent out to unknown, age-matched peers to be rated on likability. (*A*) Participants rated the likability of the peers before the task. (*B*) During the task, participants predicted whether they thought the peer liked them or not, and then were shown the (supposed) peer rating. (*C*) Following the task, participants completed a surprise memory test, querying memory for whether each peer liked or disliked them. (*D*) Participants rerated the likability of each peer.

Lastly, we examined participants' performance on a surprise memory test following the social evaluation task to (*i*) ensure that participants remembered the feedback they received, which would allow us to interpret subsequent findings as task-induced; and (*ii*) determine memory equivalency across age, which would provide evidence that subsequent findings were not driven by developmental differences in learning.

Results

Summary of Age Analysis Approach. Analyses querying for age effects were performed in two steps; see *SI Methods* for details. First, we conducted linear or linear mixed-effects (LME; for dependent variables with repeated measures) regression analyses using the *nlme* package in R (27) to evaluate the statistical significance of standard linear and nonlinear (quadratic, cubic) age-related patterns of change. The optimal age model was chosen based on model fit statistics [Akaike information criterion; AIC (28)]. Parameter estimates (*B*) are reported in unstandardized units.

For the present dataset, these analyses frequently favored models that included multiple higher-order age predictors, suggesting complex age-related patterns. Therefore, we undertook a second analysis step more sensitive to complex age patterns to query whether nonlinear curves, derived through data-driven methods, would improve fit over and above the traditional regression models. Generalized additive models (GAMs) or generalized additive mixed models (GAMMs; for dependent variables with repeated measures) were built by using the *mgcv* package in R (29), which generated a data-driven function summarizing age-dependent change through thin plate regression smoothing splines. This analysis yielded solutions that were stabilized by using leave-one-out cross-validation and permitted formal model comparison to determine whether the spline-based model fit was superior to the fit of the traditional linear regression analyses, based on AIC. The model yielding the lowest AIC value was selected for statistical inference. In addition, we conducted traditional age-group binning analyses to illustrate convergence (*SI Results*). For each model, we report the *R*-squared as an effect size estimate, which summarizes the variance explained.

Views of Self.

Explicit: Prediction of peer feedback. We computed the proportion of trials where participants predicted they would be liked to determine whether individuals exhibited explicit biases in their expectations of peer acceptance. In general, participants predicted that they would be liked 53.22% of the time (SE = 1.32%; min = 19.60%, max = 85.00%), which is an overestimation compared with the base rate of 50% [participants received 50% acceptance and 50% rejection feedback across the task; one-sample $t(106) = 2.439$, $P = 0.016$].

Primary analyses tested whether individuals of different ages expected to be liked at different frequencies. The cubic regression model with all three age predictors was identified as the optimal model (AIC: −124.6) compared with a quadratic model (AIC: −122.2), linear model (AIC: −122.4), and null model with no age predictors (AIC: −119.5). When examining each age term within the cubic model, predictions of being liked increased linearly with age ($B = 0.299$, $P = 0.025$) and also followed a cubic function ($B = -0.274$, $P = 0.039$). The quadratic age predictor was not significant ($B = 0.176$, $P = 0.184$).

For comparison, we built a GAM to generate a data-driven nonlinear age fit using a thin plate regression smoothing spline. Model comparison revealed that the spline-based model (AIC: −124.4; 9.39% variance explained) and the cubic regression model (AIC: −124.6; 9.91% variance explained) were nearly equivalent in fit quality, although the cubic model slightly outperformed the spline model. Because the spline-based model was internally cross-validated, and, thus, more robust and replicable, we present this model in Fig. 2. The observed pattern indicated that young adolescents predicted that they would be liked less frequently than young adults, who overestimated the extent to which they would be accepted by peers. The highly similar cubic fit is displayed in Fig. S6 to demonstrate convergence.

Implicit: Prediction response times. Participants took an average of 1,345 ms (SE = 33.52 ms) to predict whether they would be liked or disliked by peers, with very few nonresponses (1.7% of all trials). Overall, response times were equivalent across age [$r(105) = 0.024$, $P = 0.802$]. Across all participants, response times for predicting acceptance [mean (M) = 1,363 ms, SE = 33.83 ms] and rejection (M = 1,350 ms, SE = 34.43 ms) did not differ [paired *t* test: $t(106) = 1.023$, $P = 0.308$].

Prior work has demonstrated that response time biases can reflect implicit conceptual conflict (30, 31), such that slowing reflects cognitive interference induced when pairing incongruent constructs and speeding reflects facilitative association when pairing congruent constructs. We evaluated participants' response times when predicting they would be liked or disliked as an index of congruence with self-views. Based on these frameworks, comparison of response times when making a prediction allowed us to obtain a proxy measure of cognitive interference,

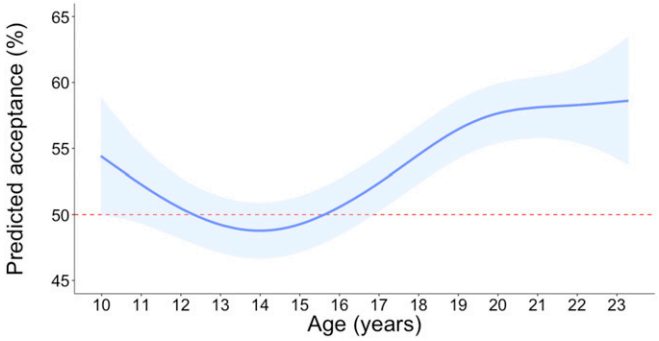

Fig. 2. Relative to adolescents, young adults overestimated how much they would be liked by peers. Graph shows a blue fit line of predicted values of acceptance expectancy (percent of trials predicted acceptance) based on the thin plate regression smoothing spline model. Blue shading indicates the SEM. Red dotted line denotes actual rate of acceptance (50%).

wherein slower responses to one prediction (e.g., rejection) over the other (e.g., acceptance) suggested a need to override a stronger association with the competing prediction (e.g., acceptance).

To examine age effects, we fit linear regression models evaluating age-related change with prediction response time difference score (rejection – acceptance) as the dependent variable. The cubic model with all three age predictors (AIC: −122.9) was equivalent to the linear model (AIC: −122.9) and superior to the quadratic and null models (AIC: −121.7 and −121.2, respectively). The cubic model was chosen for thoroughness and revealed a marginally significant linear increase with age ($B = 0.260$, $P = 0.052$). The quadratic and cubic age terms were not significant (quadratic: $B = 0.117$, $P = 0.378$; cubic: $B = -0.233$, $P = 0.082$).

Model comparison revealed that the spline-based model was a better fit of the data (AIC: −124.4; 8.52% variance explained) than the cubic regression model (AIC: −122.9; 6.97% variance explained) (Fig. 3). Specifically, early adolescents exhibited slower reaction times for predicting acceptance than rejection, suggestive of an internal heuristic more consistent with expecting rejection from others. Conversely, older participants exhibited slower reaction times for predicting rejection relative to acceptance, suggestive of an internal heuristic more consistent with expecting others to accept them.

Changes in views of self. Self-views were assessed before and after the social evaluation task by using the Self Perception Profile (SPP) (24–26), which measures global self-esteem. Pretask data indicated that at baseline, participants' reported self-views were consistent with published norms of each age-specific scale (Table S1), with an average of 3.12 (SE = 0.06; scale: 1–4; min = 1.2, max = 4.0). Participants endorsed comparable levels of self-views at baseline across age [$r(104) = 0.061$, $P = 0.537$]. These findings built confidence in our ability to isolate task-induced changes in self-views that was not biased by baseline differences.

To examine the extent to which the social evaluation task impacted views of self differently across development, we computed the percent change score comparing pretask to posttask scores on the SPP. Positive change scores indicated enhanced self-views, and negative change scores indicated reduced self-views as induced by the task. Across the entire sample, participants did not demonstrate a significant task-induced change in self-views [one-sample $t(103) = 1.463$, $P = 0.146$].

When testing for developmental differences, linear regressions with percent change score as the dependent variable revealed significant age-related change. The linear model (AIC: −175.6) was superior to the cubic (AIC: −174.4), quadratic (AIC: −173.9), and null (AIC: −173.1) models, demonstrating a significant linear effect of age ($B = 0.219$, $P = 0.037$).

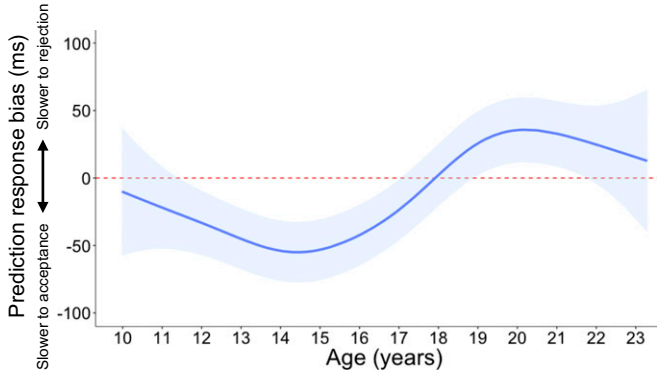

Fig. 3. Response time bias for predicting rejection vs. acceptance differs with age. Blue fit line of predicted values depicts age-related changes in the prediction response bias score based on the thin plate regression smoothing spline model. Blue shading indicates the SEM. Red dotted line denotes no prediction response bias.

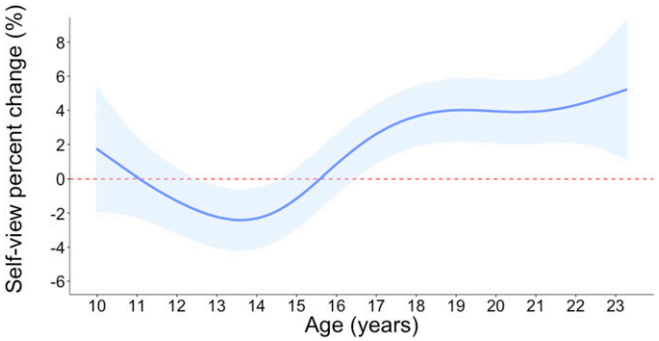

Fig. 4. Task-induced changes in self-views differed across development. Graph shows blue fit line of predicted values of the percent change in self-esteem score pretask vs. posttask based on the thin plate regression smoothing spline model. Blue shading indicates the SEM. Red dotted line denotes no change in self-views.

Model comparison showed that the spline-based model (AIC: −176.2; 8.85% variance explained) outperformed the linear regression model (AIC: −175.5; 4.21% variance explained) (Fig. 4). This pattern indicated that early adolescents experienced a unique drop in self-views, whereas self-enhancement emerged during the transition to adulthood.

Views of Others.

Changes in likability ratings of peers. Before and after the social evaluation task, participants rated the likability of each peer on a sliding scale, which output a value from 1 to 100. On average, participants rated peers as relatively neutral before the task (M = 45.59, SE = 1.44). A test for age differences in pretask likability ratings indicated that baseline ratings were equivalent across age [$r(105) = 0.071$, $P = 0.464$], suggesting that the age-customized stimulus sets were well balanced.

A difference score subtracting the posttask from pretask ratings quantified whether participants enhanced impressions of a peer following acceptance (positive difference score) and reduced impressions of the peer following rejection (negative difference score). Across the sample as a whole, ratings became more positive following acceptance (M = 0.37, SE = 0.94) and more negative following rejection (M = −3.16, SE = 1.09; B = 0.035, $P < 0.001$), suggesting that participants "upgraded" peers who provided positive feedback and "downgraded" their impressions of peers who provided negative feedback.

Key analyses tested whether the tendency to increase ratings of peers after acceptance and decrease ratings of peers after rejection varied with age. LME regressions with the likability difference score as the dependent variable, subject as a random effect, feedback type (acceptance or rejection), age (linear, quadratic, or cubic), and age interactions as predictors revealed that the linear model (AIC: −431.9) was superior to the cubic (AIC: −426.4), quadratic (AIC: −428.5), and null (AIC: −424.9) models. The optimal linear model revealed a significant interaction between feedback type and linear age ($B = 0.340$, $P = 0.001$).

Model comparison showed that the spline-based model [AIC: −429.9; 2.30% variance explained (adjusted)] was a poorer fit of the data relative to the LME model [AIC: −431.9; 2.73% variance explained (adjusted)] (R^2 was adjusted for this analysis due to the repeated-measures nature of the data. The adjustment penalized R^2 based on the number of parameters in the model.). Therefore, the LME-based model was carried forward for inference and is depicted in Fig. 5. Results suggested that being accepted or rejected by peers exerted a greater influence on how individuals viewed their peers with increasing age. While

children and early adolescents maintained impressions of peers regardless of peer feedback, young adults updated impressions of peers based on whether that peer accepted or rejected them.

Memory Control Analysis. Following the social evaluation task, participants completed a surprise memory test of the feedback they received. Overall, participants accurately remembered 62.74% (SE = 0.73%) of the feedback they received, which was significantly above chance [50%; one-sample $t(106) = 17.474$, $P < 0.001$]. Age analyses showed that participants remembered when they were liked or disliked equivalently across age (main effect and interaction with age: Ps > 0.132; see *SI Results* for details). Importantly, these results ruled out the possibility that the differences in processing of peer feedback described herein were a byproduct of superior source memory for the feedback received at any particular age. Instead, the baseline information available to update impressions was equivalent across age, but processed and integrated differently to update representations of the self or others.

Discussion

Understanding how individuals process and learn from social evaluation across development could provide key insights into adolescents' preoccupation with peer approval and the accompanying impact of social feedback on adolescents' well-being. Here, we used a well-validated social evaluation task to probe how peer feedback influenced participants' self-views and the views of their peers. Across explicit and implicit measures of behavior, we found evidence that adolescents expected and internalized rejection, which negatively impacted their self-views, while adults expected acceptance and processed peer evaluation in a way that enhanced self-views. Furthermore, adolescents' impressions of their peers were unaffected by the feedback they received, whereas adults deprecated the peers who rejected them. Together, these findings implicated codeveloping processes of reactivity to rejection and self-protective defenses that resulted in adolescents internalizing and adults externalizing negative social feedback.

Participants' explicit expectations of peer acceptance indicated that young adults overestimated how often peers would like them. These findings align with previous work positing that healthy adults maintain inherently positive or inflated self-views (4, 32) and report having more positive and less negative attributes than others, known as the "above average effect" (6, 33). By contrast, adolescents exhibited lower, yet more accurate, rates of predicted acceptance. Although few studies have directly compared expectations of social acceptance across age, these findings are consistent with one prior study showing that early adolescents expected to be liked less frequently than adults (20). The present study identified a developmental shift in explicit expectation of acceptance that troughs during adolescence and rises during the transition from adolescence to young adulthood.

In addition, we compared participants' response times when predicting acceptance and rejection as an implicit index of cognitive interference (30, 31). Young adults showed relatively faster responses when predicting acceptance compared with rejection, which could reflect an internal schema more consistent with expecting acceptance. Similar tendencies have been demonstrated previously, wherein adults displayed faster response times when associating the self with positive attributes (34). Adolescents exhibited the reverse trend of longer response times to predict acceptance, which could reflect the fundamentality of biased expectancies of rejection in adolescence. In all, these findings demonstrated robust differences in social expectancies across development, with the transition from adolescence to adulthood characterized by a shift from rejection-congruent to acceptance-congruent expectations.

This study also revealed age-related differences in how peer feedback impacts self-views. Although the social evaluation task delivered an equivalent rate of 50% acceptance and 50% rejection feedback, this mixed evaluative experience was incorporated into self-views in strikingly different ways across development. Late adolescents and young adults reported a boost in self-views, which is consistent with a long history of research demonstrating that adults activate compensatory self-enhancement mechanisms following negative feedback, including increases in explicit and implicit self-views (4, 35). By contrast, early adolescents experienced a drop in self-views following exposure to the same social feedback, suggesting that adolescents may not exhibit the self-protective biases that buffer adults against negative self-views following rejection. These findings extend previous work underscoring the strong negative affective reaction adolescents show in response to peer rejection (15, 18). Although the present study did not explicitly measure emotional reactions to the social feedback, the adolescent-specific reduction in self-views suggests a prioritization of rejection cues during adolescence. Together, our findings indicate that adolescents exhibit a particular sensitivity to rejection, whereas self-protective biases, which emerge later in development, buffer adults from the effects of rejection experiences.

When comparing likability ratings of peers before and after the task, adults made feedback-specific adjustments in their views of others by downgrading those who had rejected them and upgrading peers who had accepted them. The tendency for adults to rate accepting peers more favorably (36), respond to negative feedback by denigrating others (5, 9, 10), and engage in retaliatory impression updating (11) aligns with previous work. These strategies may help to preserve self-views by promoting future affiliation with accepting rather than rejecting peers, undercutting the validity of negative feedback sources, and discouraging peers from future exclusionary behavior. Meanwhile, adolescents showed consistency in their impressions of peers, even after being rejected. These results document the developmental timescale along which feedback-dependent impression formation emerges, which is important for understanding how adolescents and adults integrate social evaluation to shape future affiliative or antagonistic social behaviors.

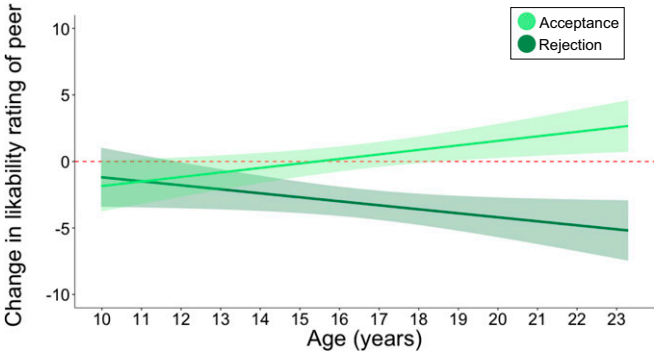

Fig. 5. Feedback-specific changes in likability ratings of peers emerged with age. Graph shows fit line of predicted values of the difference score in peer likability rating pretask vs. posttask as a function of feedback type based on the linear regression. Light green line indicates change in likability rating following acceptance, and dark green line indicates change in likability rating following rejection. Shading indicates the SEM. Red dotted line denotes no change in likability ratings of peers.

Developmental Framework for Socioevaluative Processing. Our findings reveal a framework of socioevaluative processing from preadolescence through young adulthood. We have shown that reactivity to rejection is heightened during early adolescence, whereas self-protective processes (including retaliatory impression updating) have a more protracted emergence. The interactions

between these codeveloping processes may result in early adolescents exhibiting a maximal differential between heightened reactivity to rejection and the absence of self-protective biases that preserve self-views (Fig. 6).

Here, we propose three possible mechanisms that help explain the existence and utility of the adolescent biases documented in the present study.

Regulatory capacity. In contrast to adults, we found that adolescents did not enhance self-views or denigrate impressions of rejecting peers, suggesting that adolescents do not avail themselves of the self-protective biases that adults do. One possibility is that adolescents are continuing to fine-tune the cognitive regulatory strategies that give rise to self-protective biases. Indeed, theoretical accounts describe adult self-enhancing processes as complex regulation strategies deployed to mitigate the negative affect experienced following a threat to self-positivity (35). It is possible that the mechanisms needed to regulate affective responses to rejection and downstream effects on self-views are not fully developed during adolescence, resulting in a tendency toward internalization of negative feedback. Consistent with this perspective, prior work has demonstrated that adolescents' ability to regulate emotional and behavioral responses toward social and emotional cues continues to improve through adolescence (37–39). Thus, the protracted development of regulatory efficacy may account for early adolescents' lessened tendency to enact self-enhancing defenses in response to peer rejection.

The developing self-concept. Another possibility is that adolescents internalize peer rejection because their "self-concept" is still in its developing stages. The self-concept encompasses evaluative self-knowledge and self-worth, which are informed by status or competency across multiple domains (e.g., social, athletic, and appearance) (40). Research has shown that adults have a complex, multifaceted self-concept and can draw upon alternative domains of self-views to buffer against threat in a specific domain (41). This may, in part, explain how adults are able to buttress self-views in response to negative feedback, as seen in the present study. Adolescents, by contrast, are in the process of building up self-referential knowledge, identity, and social group affiliations (40). As such, the relatively unfractionated adolescent self-concept may be less able to draw upon alternate sources of self-worth in the face of negative appraisals, which could lead to the stronger impact of negative peer evaluation.

Social reorientation. The transition to adolescence is accompanied by a marked change in the complexity of the social environment (13). Adolescents spend more time with peers (42), experience more fluidity in social groups (43), and encounter more frequent feedback from peers (44). A key challenge of adolescence is to readily incorporate social feedback and flexibly adjust behavior to successfully navigate their dynamic social environments (45). One intriguing possibility suggested by our findings is that adolescents' tendency to experience a drop in self-views yet maintain impressions of peers, even in the face of rejection, supports efforts aimed at maximizing prosocial behaviors and group affiliation. According to the sociometer theory (46), shifts in self-views serve to reflect inclusionary status, with a drop in self-views signaling risk of exclusion. Given the critical importance of peer relationships during adolescence, it may be adaptive for teens to be especially attuned to any risk of rejection and use the internalized cues to learn from peer feedback and adjust behavior in response to new social demands, thereby ensuring future acceptance.

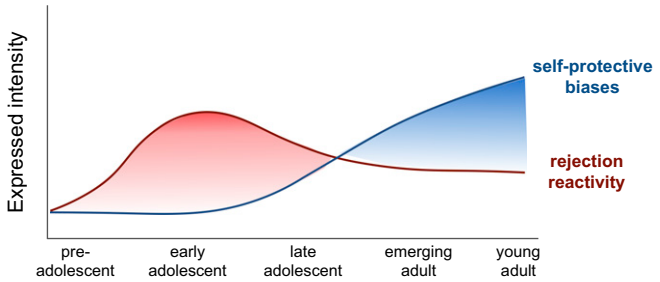

Fig. 6. A hypothesized developmental framework based on the present study findings, delineating changes in combined mechanisms resulting in robust shifts in reactions to evaluative feedback experiences from adolescence to young adulthood. Based on the current data and extant literature, the red line represents reactivity to peer rejection, and the blue line represents the tendency to self-protect in response to peer rejection.

Adolescents' tendency to maintain impressions of peers after experiencing rejection is broadly consistent with their goal of social belongingness. While adults may be more firmly rooted in their social network and can afford to behave in antagonistic ways following the receipt of negative feedback in service of self-protection (10, 35), this tactic may not be optimal for adolescents who place higher value on social belonging and are still experimenting and affiliating with various social groups. Thus, it may be more beneficial for adolescents to refrain from so readily derogating others following negative feedback.

Limitations and Future Directions. The present study was designed to investigate how social evaluation was incorporated into self- and other-views at different developmental stages. Our findings demonstrated clear convergence in rejection-related biases in early adolescence and self-protective biases in early adulthood, while individuals between adolescence and adulthood showed "partial profiles" of reactivity to rejection and self-protective biases. Preadolescents showed little change in self- and other-views, despite understanding the task and showing robust memory for social feedback, constituting a potentially meaningful null result that warrants further investigation. Having established these age-dependent changes, a key next step will be to test for causal links between these factors and to explicitly test the proposed developmental mechanisms detailed above. In addition, future work incorporating real social feedback from known peers, such as classmates, would allow for more ecologically valid inferences. Such a design would also be more amenable to longitudinal approaches, which were not possible in the present study due to the use of deception.

Conclusions

The present study reveals a developmental framework of socio-evaluative processing, which delineates age-specific changes in codeveloping processes that shape the integration of peer feedback across age. The resulting adolescent-specific internalization of social feedback may reflect a key challenge of this phase of development: growth in social competence and group affiliation along with progressive tuning of cognitive strategies that help individuals thrive in complex social worlds as adults.

Methods

Participants. A total of 119 healthy individuals were recruited from the local Boston and Cambridge, MA, communities, and a final sample of 107 were included in the present study. Participants were aged 9.98–23.29 ($M = 16.45$ y, $SD = 3.71$) and 49.5% female, with gender distributed equivalently across age (logistic regression: $B = -0.019$, $P = 0.719$). The Committee for the Protection of Human Subjects at Harvard University approved all research procedures. All participants provided informed written consent, and all minor participants received written permission for their participation from a parent or legal guardian. See *SI Methods* for details.

Previsit Procedure. Approximately 1 wk before the study appointment, participants submitted a digital headshot photograph. Participants believed that their photographs would be traded with other study locations and rated by the unknown peer-aged participants in other cities based on how likable

they looked. Participants also made pretask likability ratings of the same peers online before their study visit. For these pretask ratings, participants viewed each peer along with the question: "*How much do you think you would like this person?*" Participants responded by using their mouse to click along a continuous scale from "not at all" to "very much" (Fig. 1*A*). The output of this scale ranged from 1 to 100, and this numerical value was used in subsequent analyses. Participants were told that the other participants had used the same survey to rate their photograph.

Study Visit. Participants completed the SPP (24–26) before the task to quantify baseline (pretask) self-views. We administered the Child (ages 9–14) (24), Adolescent (ages 15–17) (25), and College-Aged (ages 18–23) (26) versions of the questionnaire as validated. During the task, participants viewed the photographs of the peers, predicted whether that peer liked or disliked them, and received feedback indicating whether the peer liked or disliked them (20–23) (Fig. 1*B*). Following the social evaluation task, participants completed a surprise memory test where they viewed photographs of all 160 peers again in random order and indicated whether each peer had liked them or not during the task by selecting "Yes" or "No" with a self-paced button press (Fig. 1*C*). After the memory test, participants completed the SPP (24–26) again, which allowed us to quantify task-induced shifts in self-views. Participants also rerated the likability of each peer using the same scale used for the pretask likability ratings (Fig. 1*D*). All participants were questioned by using a funnel debriefing procedure to confirm their belief in the cover story. Details on task design and stimulus development are provided in *SI Methods*. All presented data can be accessed via the Open Science Framework (47).

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