

Regular Article

Fears of positive and negative evaluation and their within-person associations with emotion regulation in adolescence: A longitudinal analysis

Achilleas Tsarpalis-Fragkoulidis¹ , Ulrich S. Tran²  and Martina Zemp¹ 

¹Department of Clinical and Health Psychology, University of Vienna, Vienna, Austria and ²Department of Cognition, Emotion, and Methods in Psychology, University of Vienna, Vienna, Austria

Abstract

Fear of positive evaluation (FPE) has recently emerged as an important aspect of social anxiety, alongside fear of negative evaluation. These evaluation fears peak during adolescence, a developmental stage that is also often accompanied by difficulties in emotion regulation, thereby increasing young individuals' vulnerability to mental disorders, such as social anxiety. We aimed to examine the longitudinal within-person associations between fears of evaluation, social anxiety, and three emotion regulation strategies (i.e., acceptance, suppression, rumination) in adolescents. Data were collected from a sample of 684 adolescents through an online survey three times over the course of 6 months and were analyzed using random intercept cross-lagged panel models. At the between-person level, FPE was linked to all three emotion regulation strategies, whereas fear of negative evaluation and social anxiety were associated with acceptance and rumination. At the within-person level, difficulties in accepting emotions predicted FPE, suppression predicted social anxiety, and social anxiety predicted rumination over time. These findings reveal complex interdependencies between emotion regulation, social anxiety, and evaluation fears, both reflecting individual differences and predicting changes within individuals, and further elucidate the developmental trajectory of social anxiety in adolescence.

Keywords: Adolescence; fear of positive evaluation; random intercept cross-lagged panel model; social anxiety

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Marked by sweeping changes with respect to autonomy, affective reactivity, and socialization pressures, adolescence represents a developmental stage of increased vulnerability for various internalizing symptoms (McLaughlin & King, 2015; Yap et al., 2007). Indeed, age-of-onset data highlight that many anxiety disorders, including *social anxiety disorder* (SAD), often first emerge during adolescence (Rapee et al., 2009). In particular, the transition from attachment to the family of origin toward a greater orientation to the peer group has been identified as a sensitive developmental window for the onset of social anxiety. As such, SAD is one of the most common anxiety disorders in adolescence, with prevalence rates ranging from 5% to 10% (Kessler et al., 2005; Ollendick et al., 2014). Furthermore, SAD has relatively low remission rates (Bruce et al., 2005) and frequently persists into adulthood (Spence & Rapee, 2016).

As adolescence is also accompanied by major changes in how individuals manage their emotions (Cracco et al., 2017), problems with effective emotion regulation often emerge during this time (Schäfer et al., 2017; Young et al., 2019). These problems, exemplified by an overreliance on maladaptive strategies (e.g.,

suppression and rumination) and an underutilization of more adaptive strategies (e.g., acceptance), have been associated with social anxiety (Tsarpalis-Fragkoulidis et al., 2022), although the role of fears of evaluation has not been sufficiently examined in this context. Additionally, the majority of studies investigating these phenomena have used cross-sectional designs, focusing on between-person differences and rarely taking into account processes that happen within individuals over time. Therefore, the goal of this study was to examine the prospective, within-person associations between fears of evaluation, emotion regulation, and social anxiety in adolescents.

Fear of evaluation

A defining feature of social anxiety pertains to excessive fears of being negatively evaluated by others (Clark & Wells, 1995; Rapee & Heimberg, 1997). Such fears often manifest as perceptions of unrelentingly high standards, expectations of falling short, or overestimations of the consequences of negative evaluations (Cook et al., 2022). These cognitive distortions coalesce into a behavioral response pattern characterized by a general hypersensitivity to and *fear of negative evaluation* (FNE), which can often lead to complete avoidance of social situations (American Psychiatric Association, 2013; Cook et al., 2022). Although these intense FNE proved to be one of the cardinal symptoms of social anxiety (Hofmann, 2007), recent research has consistently

Corresponding author: Achilleas Tsarpalis-Fragkoulidis; Email: achilleas.tsarpalis-fragkoulidis@univie.ac.at

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demonstrated that fears of being *positively* evaluated play an equally crucial role (Cook *et al.*, 2022).

Fear of positive evaluation (FPE) is defined as “feelings of apprehension about others’ positive evaluations of oneself and distress over these evaluations” (Weeks & Howell, 2014, p. 433). A prominent framework of FPE stems from the psycho-evolutionary model of social anxiety (Gilbert, 2001), which suggests that these fears come with certain evolutionary benefits that foster group cohesion: FNE and FPE serve the function of regulatory forces that decrease the likelihood of upward or downward movement in a hierarchically structured social environment. More specifically, FNE may prevent exclusion from the group by modulating certain behaviors that might be considered norm violations, whereas FPE may guard against doing “too well” and thereby coming into conflict with others who are considered to be higher up in the social hierarchy (Fredrick & Luebbe, 2020). When these processes become excessive, however, they usually lead to a series of negative effects that promote the development and maintenance of social anxiety (Reichenberger & Blechert, 2018).

Several associations between FPE and different aspects of social anxiety have been repeatedly demonstrated, such as submissive behavior, increased negative and decreased positive affect during social interactions, decreased positive automatic thoughts, and discomfort upon receiving positive feedback (Weeks *et al.*, 2008; Weeks *et al.*, 2010; Weeks & Howell, 2012). In light of these findings, the conceptualization of social anxiety was extended to include both types of evaluation fears within the *bivalent fear of evaluation model* (Weeks & Howell, 2012). According to this model, fears of negative and positive evaluation, although highly correlated, should be considered distinct constructs. Supporting this notion, recent research syntheses (Cook *et al.*, 2022; Fredrick & Luebbe, 2020; Reichenberger & Blechert, 2018) have concluded that FPE is conceptually different from FNE, with meta-analytic findings suggesting that FPE can explain up to 9% of the variance in social anxiety, which is not accounted for by FNE (Cook *et al.*, 2022). Although FPE appears to be of particular importance to the phenomenology of SAD, little is yet known about how it relates to other important phenomena of social anxiety, such as emotion regulation deficits.

Emotion regulation

Emotion regulation refers to individuals’ cognitive and behavioral strategies employed to exert control over the occurrence, timing, intensity, and expression of their emotions (Gross, 1998). Social anxiety, both at clinical and subclinical levels, has been associated with an overreliance on certain emotion regulation strategies that are widely viewed as maladaptive, such as (a) problems with accepting emotions (Mennin *et al.*, 2009), (b) emotion suppression (Dryman & Heimberg, 2018; Jazaieri *et al.*, 2015), and (c) rumination (Brozovich & Heimberg, 2008). These three emotion regulation strategies are strongly linked with social anxiety across adolescence and adulthood, and there is increasing evidence that these links may be explained by underlying fears of evaluation (Dryman & Heimberg, 2018; Everaert *et al.*, 2020; Ford & Gross, 2018; Heimberg *et al.*, 2014; Spokas *et al.*, 2009). Thus, special attention must be paid to these three emotion regulation strategies together with evaluation fears when examining social anxiety in adolescence.

First, a common emotion regulation problem in social anxiety involves the reluctance to accept negative emotions (Mennin *et al.*,

2009; Rusch *et al.*, 2012; Spokas *et al.*, 2009). This is consistent with findings on experiential avoidance, showing that socially anxious individuals are uncomfortable when confronted with naturally emerging negative affect (Dryman & Heimberg, 2018; Kashdan *et al.*, 2013). Strikingly, there is increasing evidence that socially anxious individuals have difficulties accepting strong positive emotions as well (Kashdan & Breen, 2008). This reluctance to accept negative emotions has been assumed to be partially guided by underlying maladaptive beliefs that emotions are inherently negative, outside of one’s control, and a sign of weakness (De castella *et al.*, 2014; Ford & Gross, 2018; Spokas *et al.*, 2009). Such beliefs have been associated with a lower acceptance of emotions (Ford & Gross, 2018), suggesting that FNE, expressed as a belief that emotions are a sign of weakness and should not be seen by others, may play a crucial role in accepting emotional experiences non-judgmentally. Regarding positive emotions, research has shown that FPE is associated with difficulties in embracing positive social experiences and is associated with fewer positive events and emotions in everyday life (Reichenberger & Blechert, 2018). Additionally, FPE has been shown to be a sensitive predictor of physiological changes in situations that involve positive feedback (Weeks & Zoccola, 2015), and it is exactly these changes that are less likely to be accepted by socially anxious individuals (Kashdan *et al.*, 2008). These findings suggest that FPE may be linked with difficulties accepting emotional responses that would have otherwise been nominally positive.

Second, suppression refers to the voluntary inhibition of the verbal and behavioral expression of emotions (Gross, 2015). The maladaptive nature of emotion suppression arises from its limited effectiveness in achieving its intended purpose, as negative emotions rather tend to intensify when being suppressed (Dryman & Heimberg, 2018). Conversely, the suppression of positive emotions effectively dulls the intensity of these emotions and is associated with fewer positive emotions and experiences (Blalock *et al.*, 2016; Farmer & Kashdan, 2012). According to the bivalent fear of evaluation model (Weeks & Howell, 2012), socially anxious individuals are ultimately afraid of any kind of evaluation and may thus engage in expressive suppression of positive and negative emotions to avoid attention and subsequent evaluation from their social environment (Dryman & Heimberg, 2018; Jazaieri *et al.*, 2015). Indeed, a study investigating FNE and expressive suppression in adolescents and young adults found a positive association between the two constructs (Charania & Krishnaveti, 2021).

Third, rumination encompasses persistent thoughts that are characterized as repetitive, intrusive, difficult to disengage from, and demanding cognitive resources (Ehring *et al.*, 2011). In the context of social anxiety, rumination primarily presents as post-event processing, that is, the tendency to ruminate on past social events by selectively recalling negative information and negatively evaluating one’s behavior in those events (Brozovich & Heimberg, 2008). The cognitive-behavioral model of social anxiety (Heimberg *et al.*, 2014) posits that socially anxious individuals often monitor their social behaviors for signs of inadequacy or actions they perceive as embarrassing with the intention of implementing corrective measures and preparing for future interactions. As one of the goals of this self-monitoring behavior is the prevention of negative evaluations, it appears plausible that FNE may be one of the driving factors behind post-event rumination. In fact, a connection between FNE and maladaptive cognitive emotion regulation, a construct that encompasses rumination and catastrophizing, has been demonstrated in a cross-sectional study

(Altan-Atalay & Ray-Yol, 2023). Considering the role of FPE against the backdrop of these findings, anxious or arousing emotional responses elicited during the reception of positive feedback could be perceived as embarrassing by the affected individual, subsequently dulled, and ultimately fuel rumination after the event. This is in line with a study that demonstrated that whenever socially anxious individuals are exposed to positive social stimuli the resulting positive emotional response might be dampened, which in turn reinforces any initial negative interpretations (Everaert et al., 2020).

While these findings largely stem from studies with adult samples, the majority have also been confirmed in children and adolescents. Specifically, in both clinical and community samples of adolescents, associations have been reported between social anxiety and acceptance (Mathews et al., 2014; Schneider et al., 2016; Young et al., 2019), suppression (Gómez et al., 2018; Klemanski et al., 2017), and rumination (Hodson et al., 2008; Klemanski et al., 2017; Kley et al., 2012; Sackl-Pammer et al., 2019; Schmitz et al., 2011).

Fears of evaluation and emotion regulation as bidirectional forces

In summary, FNE and FPE are considered core, yet distinct aspects of social anxiety, with FPE explaining a substantial amount of variance in social anxiety beyond FNE (Cook et al., 2022). Additionally, these fears may drive suppression as a means to avoid scrutiny from the social environment (Dryman & Heimberg, 2018), hinder the capacity to accept negative and embrace positive social outcomes and emotions (Everaert et al., 2020; Weeks & Howell, 2012), and contribute to a tendency for rumination that selectively fixates on the negative aspects of social situations while neglecting the positive (Alden et al., 2008; Brozovich & Heimberg, 2008). At the same time, emotion regulation difficulties may also amplify fears of evaluation; for instance, difficulties accepting emotional responses may lead to intolerance of the intense emotions triggered by receiving feedback (Kashdan et al., 2008; Weeks & Zoccola, 2015). Ruminative tendencies may dull positive and intensify negative interpretations following feedback (Everaert et al., 2020), and suppression may exacerbate negative and diminish positive affect following both negative and positive evaluations (Dryman & Heimberg, 2018), thereby perpetuating a cycle of dysregulated emotional response patterns that intensify fears of evaluation. This proposed bidirectional relationship is supported by research suggesting that emotion regulation difficulties can serve as both antecedents and outcomes of social anxiety and related symptomatology (Lincoln et al., 2022; McLaughlin et al., 2011). Since adolescents have to cope with emotionally challenging everyday social situations in their daily life, especially in terms of peer feedback, and need to deal with being constantly observed and evaluated particularly in the school context, FPE is presumably even more pronounced in adolescence and might therefore constitute a central mechanism for social anxiety at this stage of development (Cook et al., 2022).

To the best of our knowledge, no study to date has examined the longitudinal and bidirectional associations between social anxiety, evaluation fears, and emotion regulation in adolescents. Moreover, the vast majority of research in this field did not systematically distinguish between-person (interindividual) differences from within-person (intraindividual) fluctuations. Hence, they do not provide insight into the interrelations between variables as they unfold over time within adolescents (e.g., whether intraindividual

fluctuations in one construct are associated with future fluctuations in another construct within the same person). Therefore, we deem the disentangling of the two levels of variance (between-person vs. within-person) an important goal and a powerful means to examine the prospective links between social anxiety, fear of positive and negative evaluation, and emotion regulation in adolescents.

The current study

The main objective of this study was to examine the longitudinal and bidirectional associations between social anxiety, evaluation fears, and emotion regulation, in a sample of adolescents that was followed at three time points over the course of 6 months using an online survey. Our aim was to advance the understanding of how these variables are interrelated *within* adolescents by applying random intercept cross-lagged panel modeling (RI-CLPM; Hamaker et al., 2015; Mulder & Hamaker, 2021), which allowed us to disentangle between-person and within-person associations over time.

This study was preregistered at <https://osf.io/fgeb3> on March 10, 2022, with the primary goal of investigating within-person longitudinal effects of adolescents' FPE on future social anxiety mediated by emotion suppression. Data from the first wave have been previously analyzed regarding cross-sectional associations between the study variables (Tsarpalis-Fragkoulidis et al., 2022). The results suggested that fear of evaluation was associated with emotion regulation problems and partially mediated the links between social anxiety and these problems from a cross-sectional perspective. Accordingly, we extended the originally preregistered hypotheses, which concerned only the mediation effects of emotion suppression on the longitudinal association between FPE and social anxiety, and additionally included FNE, acceptance, and rumination. Nevertheless, due to the high intercorrelations between FPE, FNE, and social anxiety (with point estimates nearing or exceeding .8, causing problems of multicollinearity), we chose to conduct separate analyses for FPE, FNE, and social anxiety.

Hence, in the present study, three separate models were tested to examine the prospective and reciprocal associations of FPE, FNE, and social anxiety, respectively, with three emotion regulation strategies (i.e., acceptance, suppression, rumination) among adolescents. In terms of between-person differences, we expected associations between FPE, FNE, social anxiety, and emotion regulation and, specifically, that individuals who reported higher levels of evaluation fears and social anxiety would report lower levels of acceptance and higher levels of suppression and rumination. For the within-person associations, we assumed that intraindividual fluctuations in FPE, FNE, and social anxiety, respectively, would predict intraindividual fluctuations in suppression, rumination, and acceptance, and vice versa. Specifically, we expected reciprocal relationships of higher scores of FPE, FNE, and social anxiety with higher suppression and rumination, but lower acceptance, respectively.

Methods

Open science and data availability statement

All data sets, codes, and outputs are freely accessible at <https://osf.io/hzmvc>. Due to the wording of our consent form given to the participants, the openly available data sets only contain the mean values of the variables used in the main analyses.

Sample

A convenience sample was drawn from the general German-speaking adolescent population. Inclusion criteria were an age in the range of 14–17 years and sufficient German language skills. The final sample at the first time point (T1) consisted of 684 adolescents (85.8% identifying as female) with an average age of 16.20 years ($SD = 0.96$). The average time for survey completion at T1 was 14 min and 37 s (877.11 s, $SD = 303.31$). At T1, a significant majority of participants (72.3%) exceeded the threshold for clinical significance in the Social Phobia Inventory (SPIN; Connor *et al.*, 2000; Von Consbruch *et al.*, 2016), with the cutoff set at 24 according to Ranta *et al.* (2007). This implies that the adolescents in this sample experienced notably elevated levels of social anxiety. In this context, a large proportion of study participants reported undergoing psychological or psychotherapeutic treatment at the time of data collection, ranging from a quarter of participants at T1 to a fifth at T3.

Regarding the follow-up survey waves after 3 (T2) and 6 (T3) months, 255 participants (age: $M = 16.44$ years, $SD = 0.97$; gender: 87.5% female) completed the survey at T2 and 200 (age: $M = 16.68$ years, $SD = 1.05$; gender: 89.5% female) at T3. Of our participants, 49 turned 18 during the course of the study. As we did not assume any specific impact of the transition to adulthood on our results, we did not exclude these individuals from our data set.

The mean survey completion times were 12 min and 18 s (738.48 s, $SD = 270.19$) at T2 and 10 min and 54 s (654.67 s, $SD = 165.74$) at T3. These shorter durations for the follow-up waves can be explained by the smaller number of items (exclusion of sociodemographic information and questions about participants' willingness to participate in the follow-up waves) and respondents' familiarity with the items. Sample characteristics for all three time points are summarized in Table 1.

Procedure

An anonymous online self-report survey with three time points (i.e., T1, T2, T3) was conducted between February 15, 2022, and February 1, 2023, using the SoSci Survey platform (Leiner, 2019). Participants were recruited via free and paid advertising on social media platforms such as Facebook and Instagram. Upon completion of the first time point (T1), participants were asked to provide their e-mail address if they were willing to participate in two follow-up waves. Personalized invitation links were sent 3 (T2) and 6 (T3) months later. To ensure anonymity, a unique random alphanumeric code was automatically generated by the system and assigned to each participant to link their responses to the three waves of the survey. Respondents also had the opportunity to enter their e-mail address again at the end of each wave for a chance to win a €10 voucher for different selected online stores. A total of 30 vouchers were awarded (ten per time point). The protocol of this study was approved by the Ethics Committee of the University of Vienna before the start of data collection (protocol code 00730, November 18, 2021).

At T1, a total of 1,049 participants started the online survey, of whom 724 completed the survey. Final analyses were conducted exclusively with data from participants who reached the last page of the questionnaire, as participants were informed that they could withdraw their consent regarding study participation by closing their web browser at any time during the course of the survey. In addition, at the end of each page of the questionnaire, participants

Table 1. Sociodemographic characteristics of the final sample across time points

Variable	T1 ($n = 684$)	T2 ($n = 255$)	T3 ($n = 200$)
<i>Gender</i>			
Male	69 (10.1%)	22 (8.6%)	12 (6%)
Female	587 (85.8%)	224 (87.5%)	179 (89.5%)
Other	28 (4.1%)	9 (3%)	9 (4.5%)
<i>Residency</i>			
Austria	269 (39.3%)	107 (42%)	83 (41.5%)
Germany	413 (60.4%)	147 (57.6%)	117 (58.5%)
Other ^a	2 (0.3%)	1 (0.4%)	0
<i>First language</i>			
German	610 (89.2%)	235 (92.2%)	185 (92.5%)
Other	74 (10.8%)	20 (7.8%)	15 (7.5%)
<i>Currently living with</i>			
Both parents	458 (66.7%)	181 (71.3%)	135 (67.5%)
Mother	147 (21.4%)	43 (16.9%)	38 (19%)
Father	24% (3.5%)	9 (3.5%)	6 (3%)
Other ^b	55 (8%)	21 (8.3%)	21 (10.5%)
<i>Current education</i>			
Middle school	4 (0.6%)	2 (0.7%)	1 (0.5%)
High school	518 (75.7%)	167 (65.4%)	150 (75%)
Vocational school	88 (12.9%)	33 (12.9%)	25 (12.5%)
Special needs school	6 (1%)	2 (0.7%)	3 (1.5%)
Other ^c	66 (10%)	29 (11.3%)	21 (10.5%)
<i>Current psychotherapy treatment</i>			
Yes	177 (25.9%)	58 (22.7%)	40 (20%)
No	507 (74.1%)	197 (77.3%)	160 (80%)
<i>Physical disability</i>			
Yes	64 (9.3%)	24 (9.4%)	19 (9.5%)
No	620 (90.7%)	231 (90.6%)	181 (90.5%)

Note. ^aOther residency = Italy. ^bOther current household constellation = Changing family constellations, for example, spending alternate weeks with each parent. ^cOther = Homeschooling and other types of schooling.

were prompted to complete all questions if any responses remained unanswered. If they intentionally left a question blank, a check box appeared, giving them the option to continue to the next page. We also found four duplicate cases in our data set, that is, four participants who responded twice to the T1 survey wave, presumably due to confusion about the longitudinal nature of our study. These cases were excluded from the data set. Furthermore, we decided to exclude the 5% fastest respondents at T1, that is, 36 participants who completed the entire questionnaire in less than 460 s (7 min and 40 s), whom we considered unserious respondents. To preserve statistical power for our longitudinal analyses, we chose not to exclude participants based on response time at T2 and T3.

It is worth noting that data collection began approximately 2 months after the lockdowns, and most COVID-19-related school measures had been lifted in Austria and Germany. In our sample,

99% of participants reported that there were no lockdowns at the time of the survey at T1 and 94.9% reported that classes were held on-site, while 3.1% reported that classes were held partially on-site and partially online. At T2 and T3, all participants reported that there were no lockdowns, and 99% and 99.2% of participants, respectively, reported that classes were held on-site.

Measures

Social anxiety

Social anxiety was measured using the SPIN (Connor et al., 2000; Von Consbruch et al., 2016). The SPIN consists of 17 items pertaining to three facets of social anxiety, namely, fear of social situations, avoidance of social situations, and physiological symptoms of anxiety. Participants are asked to indicate on a 5-point rating scale how anxious they have felt about their behavior in social situations in the past 2 weeks, with higher scores indicating greater social anxiety. Given that some items (e.g., “I avoid going to parties”) might have been affected by the COVID-19 pandemic, we included a disclaimer as part of the instructions, asking participants to think of times when COVID restrictions were less severe and changing the time reference from 2 weeks to 3 months. This change was approved by the publisher of the instrument. The statements were rated on a scale from 0 = *not at all* to 4 = *very strongly*, with a maximum possible total score of 68. However, for our main analysis, we used mean scores. The SPIN showed high internal consistency across the three time points (T1: Cronbach's $\alpha = .93$; T2: $\alpha = .93$; T3: $\alpha = .95$). The SPIN has been normed in a large German sample, including individuals from the age of 14. Its applicability with adolescents has been established in both its original English form and in the German and other translations (e.g., Ranta et al., 2007, 2024).

Fear of negative evaluation

FNE was assessed using the Brief Fear of Negative Evaluation Scale (BFNE; Leary, 1983; Schwarz et al., 2016). The BFNE encompasses 12 items assessing concerns about being criticized or found wanting by others (e.g., “I am afraid that others will not approve of me”). The items are rated on a 5-point scale from 1 = *not at all characteristic of me* to 5 = *absolutely characteristic of me*, with higher scores indicating higher FNE. The items loaded on a single factor and showed high reliability across the time points (T1: Cronbach's $\alpha = 0.95$; T2: $\alpha = 0.95$; T3: $\alpha = 0.95$). The BFNE scale has not been specifically adapted for adolescents. However, it has been successfully used with adolescent populations in previous studies (e.g., Fredrick & Luebke, 2021).

Fear of positive evaluation

FPE was assessed using the Fear of Positive Evaluation Scale (FPES; Schwarz et al., 2016; Weeks et al., 2008). The FPES comprises 10 statements addressing fear and discomfort when receiving positive attention (e.g., “I feel uncomfortable when praised by authority figures”). These are rated on a 10-point scale from 0 = *not at all true* to 9 = *very true*, with higher scores reflecting greater FPE. The total score consisted of eight of the items, which all loaded on a single factor, as suggested by the authors of the scale (Weeks et al., 2008). The internal consistency of the scale was acceptable across the time points (T1: Cronbach's $\alpha = .86$; T2: $\alpha = .88$; T3: $\alpha = .89$). While not specifically adapted for adolescents, the FPE has already been employed in a number of studies with adolescent samples, for example, Karp et al. (2018), Vagos et al. (2016), and Fredrick and Luebke (2021).

Emotion regulation

The Affective Style Questionnaire–Youth (Graser et al., 2019; Hofmann & Kashdan, 2010) was used to assess suppression and acceptance. This questionnaire consists of 20¹ items referring to participants' usual reactions to emotional experience, including eight that measure suppression/concealment (e.g., “I often suppress my emotional reactions to things”) and five that measure acceptance/tolerance (e.g., “There is nothing wrong with feeling very emotional”). It is noteworthy that neither subscale differentiates between negative and positive emotions; rather, the subscales focus on negative or strong emotions. The statements were rated on a 5-point scale ranging from 0 = *not at all true of me* to 4 = *extremely true of me*, with higher scores indicating higher suppression or acceptance, respectively. Both scales showed satisfactory internal consistency across the time points (suppression: T1: Cronbach's $\alpha = .84$; T2: $\alpha = .87$; T3: $\alpha = .87$; acceptance: T1: Cronbach's $\alpha = .84$; T2: $\alpha = .87$; T3: $\alpha = .86$). This scale was validated using a German-speaking adolescent population.

Rumination was assessed using the Perseverative Thinking Questionnaire (PTQ; Ehring et al., 2011). The PTQ consists of 15 items spread across three factors, that is, the core characteristics of repetitive negative thinking (e.g., “The same thoughts keep going through my mind again and again”), the unproductiveness of repetitive negative thinking (e.g., “I think about many problems without solving any of them”), and repetitive negative thinking impairing mental capacity (e.g., “My thoughts take up all my attention”). Participants were asked to rate how they typically reflect on negative experiences and problems on a 5-point scale ranging from 0 = *never* to 4 = *almost always*, with higher scores indicating more repetitive negative thinking. The total scale, which was used in the present analysis as recommended by the scale's creators and is denoted hereinafter as rumination, showed high reliability across the time points (T1: Cronbach's $\alpha = .92$; T2: $\alpha = .94$; T3: $\alpha = .94$). The English version of the PTQ has been adapted for children but still shows considerable content overlap with the adult version. Given that our sample comprised older adolescents (aged 14–18), we deemed the German adult version of the PTQ suitable for use in the present study. This decision was based on the age and comprehension level of our participants.

Burden of pandemic

Finally, due to the relative temporal proximity of our data collection to the COVID-19 pandemic and the accompanying public health measures, we assessed the overall subjective burden of the pandemic using a visual analog scale ranging from 0 to 100 (e.g., “How burdened do you feel by the COVID-19 measures in general?”).

Attrition and missing data

As is commonly encountered in longitudinal research, many respondents opted out of further study participation after taking part in the initial wave (T1). About one quarter (23.5%; $n = 161$ participants) did not leave their e-mail address and therefore did not receive any follow-up invitation e-mails. Additionally, 229 participants (33.47%) who had expressed interest in continuing to participate did not respond to T2 or T3. Thus, a total of 390 out of 684 participants (57%) dropped out after T1.

¹Seven items measure adjusting/reappraisal, which were not used for the present analysis.

Following the recommendations of Nicholson *et al.* (2017), we used multiple methods to examine our data for patterns of missingness. We conducted *t* tests, logistic regression analyses, and chi-square difference tests to compare attritors (who participated only at T1) with continuing responders (who participated at T1 and at least one future time point) regarding their socio-demographic characteristics (gender, country of residence, native language, living situation, school type, psychotherapeutic treatment, chronic somatic illness, lockdown at the time of the survey, quarantine at the time of the survey, satisfaction with COVID-19-related school measures, subjective burden of pandemic restrictions) and the main study variables at T1 (social anxiety, FPE, FNE, acceptance, suppression, rumination). With the exception of one variable (i.e., acceptance), we found no significant differences between attritors and continuing responders. Specifically, attritors reported lower acceptance ($M = 3.13$, $SD = 0.88$) than continuing responders ($M = 3.28$, $SD = 0.88$, $t(682) = -2.18$, $p = .030$). However, the effect size was small (Cohen's $d = 0.168$), and it was the only significant result out of 17 statistical tests. Hence, given the number of comparisons calculated, we cannot exclude the possibility of a type I error. Finally, we performed the Little's Missing Completely at Random test with all of our study variables, which was not significant ($\chi^2 = 36.165$, $df = 36$, $p = .461$). For these reasons, full information maximum likelihood was used in our main analyses to address missing data in our sample.

Data analysis

Data were analyzed using IBM SPSS Statistics (Version 28) for descriptive statistics and Mplus 8.5 (Muthén & Muthén, 2017) for all structural equation modeling. We used random intercept cross-lagged panel models (RI-CLPM; Hamaker *et al.*, 2015; Mulder & Hamaker, 2021) for our main analyses to disentangle between-person differences and within-person fluctuations. As the time points in our study were approximately equidistant (3 months), we imposed equality constraints for the autoregressive and the cross-lagged paths in order to increase statistical power and model parsimony. Furthermore, due to estimation errors stemming presumably from the high attrition in our data, we imposed additional constraints on the estimation of the residual variance of some of our variables. These constraints led to a more accurate estimation of confidence intervals while maintaining excellent model fit. Detailed descriptions of our model estimation process as well as model comparisons testing the tenability of certain constraints are provided in the supplementary material (see Table S1 and S2). The Mplus code and outputs can be found at <https://osf.io/hzmvc>.

Ultimately, we fitted three models to the data, namely, one for FPE, one for FNE, and one for social anxiety, in order to test their longitudinal associations with the three emotion regulation strategies (i.e., acceptance, suppression, rumination). A conceptual illustration of one exemplary RI-CLPM conducted in this study is depicted in Figure 1.

We used bootstrapping with 5,000 samples and bias-corrected confidence intervals. Path coefficients with 95% confidence intervals not including 0 were identified as significant, while path coefficients with 95% confidence intervals being very close to 0 ($< |.05|$) were identified as potential trends in the data. Significant effects and trends that were identified in the main analyses were examined for robustness in secondary sensitivity analyses that were conducted with a sample of individuals who completed all survey waves. Model fit was evaluated using the root mean square error of

approximation (RMSEA), the comparative fit index (CFI), the Tucker–Lewis Index (TLI), and the standardized root mean square residual (SRMR). To determine a good model fit, widely used cutoff values were used: CFI/TLI $> .95$, RMSEA < 0.06 , and SRMR < 0.08 (Little, 2013). Effects across the three models were compared by imposing weighted constraints on unstandardized parameters and conducting likelihood-ratio tests. This analytical approach is detailed in the supplementary material.

Results

Descriptive statistics

Table 2 provides an overview of the means, standard deviations, and correlations of the main study variables at T1. Tests and visual inspections for multivariate normality, homoscedasticity, linearity, residual independence, and multicollinearity showed no relevant violations of the assumptions of linear regression analysis.

Regarding the burden of the COVID-19 pandemic, we found some noteworthy correlations of this variable with some of the main study variables (i.e., FPE, FNE, social anxiety, and rumination; see Table 2). While these associations were relatively modest, with correlation coefficients ranging from $r = .1$ to $.25$, they were nevertheless significant.

Between-person associations

Within each of the three models, the random intercepts showed significant variation. Seven of the 12 parameters across the three models displayed p -values $< .001$, while the other five ranged from $p = .009$ to $p = .035$, indicating stable differences between individuals in all study variables. Furthermore, our results suggest that both types of fear of evaluation, as well as social anxiety, were significantly associated with the three emotion regulation strategies. More specifically, FPE was negatively associated with acceptance ($r = -.460$ [$-.579, -.284$]) but positively associated with suppression ($r = .322$ [$.035, .527$]) and rumination ($r = .551$ [$.425, .722$]). FNE was negatively associated with acceptance ($r = -.334$ [$-.551, -.164$]), positively associated with rumination ($r = .623$, [$.441, .723$]), but not related with suppression, albeit by a very small margin. In a similar vein, social anxiety was negatively associated with acceptance ($r = -.418$ [$-.531, -.228$]) and positively associated with rumination ($r = .631$ [$.442, .712$]), but not related with suppression. These findings indicate that adolescents who generally reported greater fears of positive and negative evaluation and social anxiety symptoms also reported greater difficulties with emotion regulation, that is, displayed a greater use of suppression and rumination but lower acceptance of emotions. The associations between the random intercepts for all three models are shown in Tables 3–5 (upper part).

Within-person associations

With regard to the within-person associations of the model with FPE (see Table 3, lower part), we found significant autoregressive paths for FPE from T1 to T2, $\beta = .229$ [$.068, .431$], and from T2 to T3, $\beta = .229$ [$.065, .414$]. Similarly, for suppression, we found significant autoregressive effects from T1 to T2, $\beta = .303$ [$.039, .574$], and from T2 to T3, $\beta = .350$ [$.044, .622$].

Turning to the cross-lagged effects, we identified negative paths from acceptance to FPE from T1 to T2, $\beta = -.291$ [$-.483, -.064$], as well as from T2 to T3, $\beta = -.283$ [$-.466, -.067$]. There were also path coefficients that, while not reaching statistical significance, revealed some trends in the data (95% CIs $< |.05|$). These trends

Table 2. Means, standard deviations, and correlations of study variables at T1

Variable	<i>M (SD)</i>	1	2	3	4	5	6
1. SA	2.00 (0.89)	–					
2. FPE	4.05 (2.11)	.695**	–				
3. FNE	2.75 (0.93)	.655**	.481**	–			
4. ACC	3.19 (0.89)	–.395**	–.413**	–.241**	–		
5. SUP	3.50 (0.80)	.223**	.271**	.169**	–.478**	–	
6. RUM	2.66 (0.72)	.537**	.433**	.557**	–.290**	.244**	–
7. COV	55.75 (28.8)	.118**	.106**	.156**	–.088*	.028	.248**

Note. *N* = 684. * indicates $p < .05$. ** indicates $p < .01$. SA = social anxiety; FPE = fear of positive evaluation; FNE = fear of negative evaluation; ACC = acceptance; SUP = suppression; RUM = rumination; COV = subjective burden due to the COVID–19 pandemic.

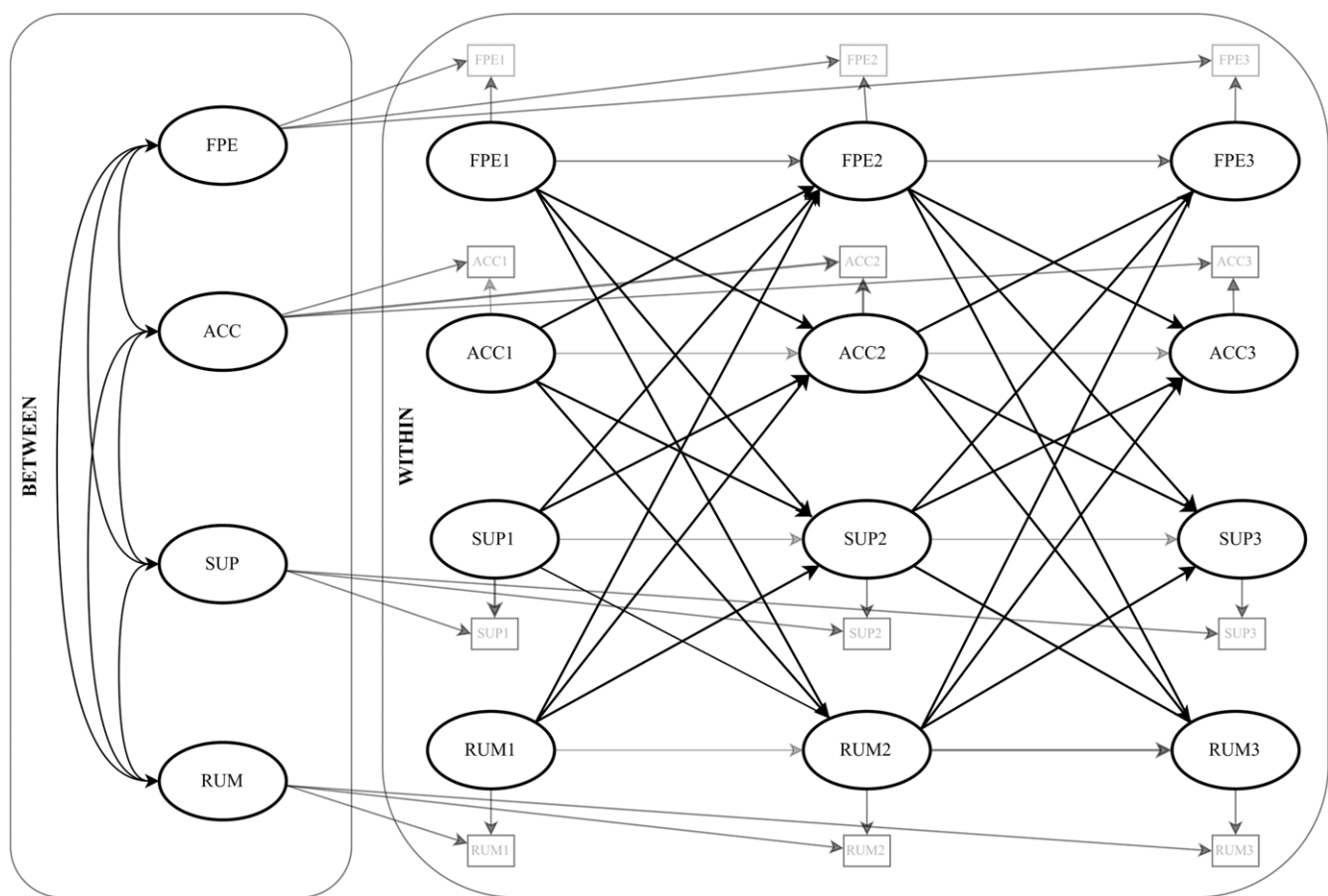


Figure 1. Conceptual random intercept cross-lagged panel model. FPE = fear of positive evaluation; ACC = acceptance; SUP = suppression; RUM = rumination. Covariances between the exogenous variables and the relevant residuals of the variables at T2 and T3 are not depicted for the sake of clarity. Gray arrows represent factor loadings and autoregressive paths; black arrows represent cross-lagged paths.

included within-person cross-lagged effects of FPE on acceptance from T1 to T2, $\beta = -.325$ [–.665, .020], and from T2 to T3, $\beta = -.309$ [–.568, .033]. Additionally, at the trend level, lower than typical acceptance at T1 and T2 predicted suppression at T2 ($\beta = -.150$ [–.345, .046]) and T3 ($\beta = -.166$ [–.399, .042]). The model fit was acceptable, RMSEA = .034 [.016, .051], CFI = .993, TLI = .979, SRMR = .038.

In the model with FNE (as detailed in Table 4, lower part), we observed significant autoregressive paths for suppression from

T1 to T2, $\beta = .322$ [.074, .594], and from T2 to T3 $\beta = .374$ [.076, .644]. These autoregressive patterns were similar to those observed in the model with FPE. However, different from the FPE model, we did not find any significant within-person cross-lagged effects in this model; thus, there were no significant associations between FNE and the three emotion regulation strategies at any of the time points or in any direction at the within-person level. Nonetheless, there were interesting trends in the data that warrant attention. For instance, similar to the FPE model, we found a trend that

Table 3. Random intercept cross-lagged panel modeling results for fear of positive evaluation, acceptance, suppression, and rumination

Estimate [95% bias-corrected confidence intervals]		
<i>Intercept associations (r)</i>		
FPE ↔ ACC	-.460 [-.579, -.284]	
FPE ↔ SUP	.322 [.035, .527]	
FPE ↔ RUM	.551 [.425, .722]	
ACC ↔ SUP	-.607 [-.794, -.427]	
ACC ↔ RUM	-.358 [-.482, -.208]	
SUP ↔ RUM	.310 [.031, .466]	
<i>Autoregressive paths (β)</i>	<i>T1-T2</i>	<i>T2-T3</i>
FPE	.229 [.068, .431]	.229 [.065, .414]
ACC	.009 [-.309, .301]	.008 [-.216, .349]
SUP	.303 [.039, .574]	.350 [.044, .622]
RUM	.115 [-.053, .436]	.166 [-.083, .504]
<i>Cross-lagged effects (β)</i>	<i>T1-T2</i>	<i>T2-T3</i>
FPE → ACC	-.325 [-.665, .020]	-.309 [-.568, .033]
FPE → SUP	-.019 [-.231, .259]	-.022 [-.253, .274]
FPE → RUM	.091 [-.316, .376]	.082 [-.278, .348]
ACC → FPE	-.291 [-.483, -.064]	-.283 [-.466, -.067]
ACC → SUP	-.150 [-.345, .046]	-.166 [-.399, .042]
ACC → RUM	-.137 [-.346, .109]	-.120 [-.312, .100]
SUP → FPE	.122 [-.161, .374]	.124 [-.147, .394]
SUP → ACC	-.097 [-.398, .201]	-.094 [-.376, .196]
SUP → RUM	.103 [-.109, .361]	.094 [-.094, .307]
RUM → FPE	-.100 [-.391, .162]	-.159 [-.508, .249]
RUM → ACC	.061 [-.115, .280]	.092 [-.182, .346]
RUM → SUP	-.003 [-.190, .184]	-.005 [-.284, .301]

Note. FPE = fear of positive evaluation; ACC = acceptance; SUP = suppression; RUM = rumination. Standardized path coefficients are shown. Significant effects, as indicated by BCCIs not covering 0, are in bold. Italics, as indicated by BCCIs close to 0 (<|.05|), represent trends.

acceptance predicted subsequent suppression from T1 to T2, $\beta = -.165 [-.370, .017]$, and from T2 to T3, $\beta = -.199 [-.455, .008]$. This model also demonstrated acceptable fit, RMSEA = .000 [.000, .029], CFI = 1.000, TLI = 1.000, SRMR = .028.

In the model with social anxiety (as presented in Table 5, lower part), we identified within-person cross-lagged effects of suppression on social anxiety from T1 to T2, $\beta = .283 [.043, .559]$, and from T2 to T3, $\beta = .279 [.065, .550]$. Additionally, we found a significant cross-lagged effect of social anxiety on rumination from T1 to T2, $\beta = .303 [.012, .617]$. However, this significant association was not observed from T2 to T3, $\beta = .264 [-.011, .572]$. No other parameters in this model reached statistical significance. We did, however, observe trends in the data regarding the cross-lagged paths from acceptance to social anxiety from T1 to T2, $\beta = -.176 [-.464, .038]$, and from T2 to T3, $\beta = -.183 [-.492, .033]$. Nonetheless, it is important to emphasize that these observed trends were not statistically significant. This model also fit the data well, RMSEA = .026 [.000, .044], CFI = .996, TLI = .989, SRMR = .033.

Table 4. Random intercept cross-lagged panel modeling results for fear of negative evaluation, acceptance, suppression, and rumination

Estimate [95% bias-corrected confidence intervals]		
<i>Intercept associations (r)</i>		
FNE ↔ ACC	-.334 [-.551, -.164]	
FNE ↔ SUP	.245 [-.002, .697]	
FNE ↔ RUM	.623 [.441, .723]	
ACC ↔ SUP	-.609 [-.784, -.396]	
ACC ↔ RUM	-.370 [-.511, -.23]	
SUP ↔ RUM	.341 [.147, .633]	
<i>Autoregressive paths (β)</i>	<i>T1-T2</i>	<i>T2-T3</i>
FNE	.327 [-.02, .741]	.332 [-.025, .713]
ACC	.205 [-.076, .483]	.246 [-.066, .586]
SUP	.322 [.074, .594]	.374 [.076, .644]
RUM	.064 [-.215, .34]	.085 [-.204, .411]
<i>Cross-lagged effects (β)</i>	<i>T1-T2</i>	<i>T2-T3</i>
FNE → ACC	.076 [-.195, .314]	.095 [-.207, .335]
FNE → SUP	-.028 [-.264, .186]	-.035 [-.283, .235]
FNE → RUM	.208 [-.070, .555]	.205 [-.068, .496]
ACC → FNE	.180 [-.200, .213]	.018 [-.185, .197]
ACC → SUP	-.165 [-.370, .017]	-.199 [-.455, .008]
ACC → RUM	-.152 [-.372, .069]	-.144 [-.348, .054]
SUP → FNE	.034 [-.228, .272]	.032 [-.207, .233]
SUP → ACC	-.108 [-.401, .142]	-.125 [-.417, .147]
SUP → RUM	.073 [-.201, .298]	.066 [-.166, .263]
RUM → FNE	-.028 [-.302, .162]	-.037 [-.274, .210]
RUM → ACC	.022 [-.142, .251]	.037 [-.233, .284]
RUM → SUP	-.002 [-.213, .181]	-.004 [-.272, .276]

Note. FNE = fear of negative evaluation; ACC = acceptance; SUP = suppression; RUM = rumination. Standardized path coefficients are shown. Significant effects, as indicated by BCCIs not covering 0, are in bold. Italics, as indicated by BCCIs close to 0 (<|.05|), represent trends.

Sensitivity analyses

To assess the robustness of our results, we conducted sensitivity analyses exclusively using data from individuals who completed the survey at all time points ($n = 157$). With the exception of the effect of social anxiety on rumination, all cross-lagged effects from our primary models remained statistically significant, supporting their robustness. A more detailed description and tables summarizing the results of these analyses can be found in the supplementary material (see Tables S3 to S5).

Model comparisons

By splitting the analysis into three separate models (each for FPE, FNE, and social anxiety) to mitigate the problem of multicollinearity in our data, the contributions of the individual variables in these models could not be directly compared. To address this limitation, we examined (a) whether the effect of acceptance on FPE was unique to FPE, (b) whether the effect of social anxiety on rumination was unique to social anxiety, and

Table 5. Random intercept cross-lagged panel modeling results for social anxiety, acceptance, suppression, and rumination

	Estimate [95% bias-corrected confidence intervals]	
<i>Intercept associations (r)</i>		
SA ↔ ACC	−.418 [−.531, −.228]	
SA ↔ SUP	.207 [−.186, .353]	
SA ↔ RUM	.631 [.442, .712]	
ACC ↔ SUP	−.595 [−.742, −.391]	
ACC ↔ RUM	−.361 [−.479, −.215]	
SUP ↔ RUM	.326 [.084, .481]	
<i>Autoregressive paths (β)</i>	<i>T1–T2</i>	<i>T2–T3</i>
SA	.223 [−.069, .602]	.219 [−.058, .721]
ACC	.124 [−.174, .411]	.139 [−.138, .51]
SUP	.256 [−.002, .502]	.268 [−.010, .535]
RUM	.053 [−.105, .299]	.075 [−.145, .35]
<i>Cross-lagged effects (β)</i>	<i>T1–T2</i>	<i>T2–T3</i>
SA → ACC	−.211 [−.646, .112]	−.225 [−.639, .111]
SA → SUP	.203 [−.015, .526]	.213 [−.019, .535]
SA → RUM	.303 [.012, .617]	.264 [−.011, .572]
ACC → SA	−.176 [−.464, .038]	−.183 [−.492, .033]
ACC → SUP	−.133 [−.347, .074]	−.147 [−.388, .069]
ACC → RUM	−.098 [−.308, .110]	−.090 [−.280, .096]
SUP → SA	.283 [.043, .559]	.279 [.065, .550]
SUP → ACC	−.086 [−.367, .191]	−.092 [−.364, .185]
SUP → RUM	.037 [−.146, .254]	.032 [−.131, .217]
RUM → SA	.114 [−.044, .368]	.181 [−.074, .485]
RUM → ACC	.088 [−.053, .289]	.152 [−.087, .367]
RUM → SUP	−.056 [−.256, .104]	−.094 [−.359, .171]

Note. SA = social anxiety; ACC = acceptance; SUP = suppression; RUM = rumination. Standardized path coefficients are shown. Significant effects, as indicated by BCCIs not covering 0, are in bold. Italics, as indicated by BCCIs close to 0 (< |.05|), represent trends.

(c) whether the effect of suppression on social anxiety was unique to social anxiety. To this end, we used ratios of unstandardized and standardized path coefficients to transfer coefficients from one model to another, while adequately controlling for differences in scaling and variance between the involved variables. A detailed description of this process can be found in the supplementary material and the table with all weighted coefficients can be found on <https://osf.io/hzmvvc>. In sum, these analyses indicated that (a) the effect of acceptance on FPE did not similarly apply to FNE, but it similarly applied to social anxiety, (b) the effect of social anxiety on rumination similarly applied to both FPE and FNE, and (c) the effect of suppression on social anxiety similarly applied to FPE, but not FNE. Thus, there were differential associations of acceptance with FNE and FPE and of suppression with social anxiety and FNE, respectively.

Discussion

The primary objective of this study was to explore the within-person longitudinal associations between social anxiety, fears of

positive and negative evaluation, and three specific emotion regulation strategies relevant to social anxiety in adolescence, namely, acceptance, suppression, and rumination. The results supported some, but not all, of our hypotheses. First, we found significant between-person associations between FPE and all three emotion regulation strategies. Strikingly, only FPE was associated with suppression at the between-person level, while social anxiety and FNE were linked to acceptance and rumination but not to suppression. This specific link suggests that FPE may have a unique double-edged effect on the tendency to avoid feedback or attention. While FNE primarily refers to a preoccupation with receiving negative feedback, FPE is associated with a broader aversion to feedback, regardless of whether it is positive or negative (Weeks et al., 2010). This broader aversion could consequently lead to a stronger tendency toward suppression of both positive and negative emotions to avoid eliciting feedback from peers, which can be both negative (e.g., annoyance) and positive (e.g., sympathy). This nuanced distinction helps to explain why the links with FPE may be more strongly pronounced than with FNE; individuals with high FPE may use suppression to avoid any attention that could lead to evaluation, which is consistent with the theory that FPE involves a general preference to avoid feedback altogether (Weeks & Howell, 2012). It should, however, be noted that the between-person association between FNE and suppression did not reach statistical significance by only a very small margin. Furthermore, our findings on the lack of a stable trait-like relationship between social anxiety and suppression contrast with previous literature (Sackl-Pammer et al., 2019). However, our longitudinal data show significant prospective effects suggesting that initially higher levels of suppression may lead to an increase in social anxiety over time. This observation corroborates the concept that the relationship between social anxiety and emotion regulation strategies, such as suppression, may develop gradually over time before solidifying into a more habitual pattern (Golombok et al., 2020).

Turning to the within-person effects, we found that when adolescents had more difficulties in accepting intense emotional experiences than was typical for this individual at one time point, they reported higher FPE than expected for this individual the next time point. This supports the notion that a non-accepting stance toward strong emotions, be they positive or negative, may contribute to a fear of and tendency to dismiss positive social outcomes in adolescents. Given that social anxiety has been consistently linked to experiential avoidance (Hayes et al., 1996; Kashdan et al., 2013), it is conceivable that difficulties in dealing with intense emotions potentially contribute to a future heightened FPE, as positive social outcomes likely produce strong affective reactions that might be difficult to manage. We also found a trend in the data suggesting that FPE and acceptance might mutually influence each other. Although the effects of FPE on acceptance did not reach statistical significance in the main analysis, sensitivity analyses using only participants with data from all three survey waves indicated significant effects. This suggests a potential reciprocal relationship between these two variables at the within-person level, which should be further explored in future studies.

Regarding FNE and the three examined emotion regulation strategies, FNE was related with rumination and acceptance at the between-person level, but, contrary to our expectations, no significant within-person associations emerged. This pattern suggests that the relationships between these variables reflect interindividual differences rather than intraindividual variability over time. Interestingly, FNE showed no longitudinal association

with acceptance, whereas FPE did. This suggests that similar to the valence-independent feedback aversion mentioned earlier, FPE may be more closely related to challenges with accepting both positive and negative emotions as well (Weeks *et al.*, 2010). That said, although our measures of emotion regulation encompassed aspects of managing emotions of any valence, they predominantly focused on the regulation of negative emotions. Consequently, our study did not disentangle the effects of FPE and FNE on managing positive and negative emotional states, rendering adequate interpretations difficult. Future studies should more clearly distinguish between positive and negative emotions when studying emotion regulation in response to positive and negative feedback to capture potential differential effects more accurately.

In terms of social anxiety, our within-person findings revealed that higher than average levels of suppression at one time point predicted an intraindividual increase in social anxiety at the next time point. These results are in line with previous research showing that difficulties in emotion regulation can serve as a precursor to subsequent anxiety-related symptoms, including social anxiety (Dryman & Heimberg, 2018). In addition, higher than average social anxiety was found to predict intraindividual rumination over time, but only from T1 to T2 and not the other way around. This finding mirrors similar prospective effects at the between-person level in previous research (Jose *et al.*, 2012). Therefore, difficulties in emotion regulation may thus not only predate social anxiety and associated psychopathology but may also be one of its consequences (Lincoln *et al.*, 2022; McLaughlin *et al.*, 2011; Schneider *et al.*, 2016). Future research should examine these relationships over longer time periods (than the present study) to provide more insight into the processes of chronification that are particularly relevant to the development of social anxiety in adolescence (Spence & Rapee, 2016).

Practical implications

Our findings, especially those at the within-person level that identify relevant processes unfolding across time within adolescents, are of particular importance for informing practice. First and foremost, our results highlight that adolescents with elevated levels of social anxiety often grapple with fears of evaluation, both positive and negative. Therefore, clinicians working with young individuals suffering from social anxiety should pay particular attention to both types of fear of evaluation, as they can affect the therapeutic process. This notion is supported by a study showing that neglecting FPE during treatment might hinder the achievement of adequate fear exposure, thus impeding symptom reduction (Weeks & Howell, 2014). The disqualification of positive social outcomes and the cognitive and emotional avoidance of positive evaluation may further contribute to symptom maintenance. In addition, the potential paradoxical negative effect of a therapist's positive reinforcement on the patient's anxiety symptoms might increase the risk of dropout (Cook *et al.*, 2022; Reichenberger & Blechert, 2018). Therefore, addressing both types of evaluation fears in therapy with adolescents and young adults, while also recognizing their associations with emotion regulation processes, may improve treatment outcomes, as indicated by a novel and promising treatment protocol by Weeks *et al.* (2020).

Considering the growing importance of peer relationships and the school environment during adolescence (Spence & Rapee, 2016), it is crucial to examine how FPE impacts adolescents in these areas. It can be assumed that FPE can pose particular

challenges for students in the school context by potentially hindering their ability to accept positive feedback from teachers and peers alike. Individuals with heightened fears of evaluation, especially of the positive type, tend to reject positive events (Weeks & Howell, 2012) and perceive positive feedback as less accurate (Alden *et al.*, 2008; Barber & Moscovitch, 2016). This could make it more difficult for them to build positive relationships with peers, which in turn increases the risk of social anxiety symptoms (Spence & Rapee, 2016).

Limitations

There are several limitations that should be taken into account when interpreting the present results. First, although a longitudinal design naturally implies a temporal ordering of variables, we cannot rule out the possibility that unmeasured third variables (e.g., neuroendocrinological changes, family and peer relationships; Cracco *et al.*, 2017; Morris *et al.*, 2007) may have affected the observed associations. Experimental designs are still needed to fully capture the causality of effects. Additionally, the exclusive use of self-report measures not only neglects the perspectives of third parties, such as teachers, classmates, and parents, but also entails the risk of common method bias that could artificially inflate the observed effects.

Furthermore, due to the complex modeling approach used in this study, there might have been limitations in terms of statistical power. For example, Mulder (2023) reported that a sample size of approximately 1,000 participants may be required to achieve adequate statistical power in models as in the present study, taking into account different proportions of between-person variance and varying numbers of time points. Therefore, some relationships or effects may have required larger sample sizes for a sufficiently powered analysis.

Another notable limitation relates to our sample and recruitment strategy. We observed a high rate of adolescents exceeding the SPIN clinical cut-off of 24 (72.3%; Ranta *et al.*, 2007). These authors reported a mean score of 11.3 (compared to 34 in our sample). However, the same scholars reported that these rates have risen sharply in the last decade: Ranging between 14% and 26% for boys and girls, respectively, in 2013, rates rose slightly in 2015 and increased most notably during the COVID-19 pandemic, with girls reaching rates of up to 47% in 2021 (Ranta *et al.*, 2024). This pronounced surge of social anxiety in the general population and the fact that our study was conducted during the pandemic with a sample with limited gender diversity (87% identifying as female) might have contributed to the unusually high rates of social anxiety in the present study. This limits the potential generalizability of our results, and we deem it prudent to wait for further research that replicates our findings with community samples. Especially in terms of gender distribution, data from more diverse samples are needed in future studies that could also examine whether the mechanisms studied vary across different genders. Relatedly, we must acknowledge the possibility that the COVID-19 pandemic affected our study, even though the strongest public health measures, such as lockdowns and school closures, had been lifted by the time of data collection. Our findings suggest that adolescents who perceived the pandemic as more burdensome also tended to report higher evaluation fears, social anxiety, and rumination. While these associations were relatively modest, they were nevertheless significant.

Moreover, an important shortcoming concerns our operationalization of emotion regulation. Although previous research has predominantly examined trait-based emotion regulation using self-report measures, more recent reflections criticize the oversimplified categorization of strategies as either adaptive or maladaptive (Aldao et al., 2015). Since emotion regulation processes are inherently dynamic and context-dependent, adopting a rigid classification into adaptive and maladaptive strategies may fail to cover the full spectrum of functional emotion regulation. Future studies should consider the use of different research designs, such as diary studies using ecological momentary assessment, to further improve our understanding of these processes in real-world settings, more accurately capturing emotion regulation of positive and negative emotions in real-world settings and in different situations.

Finally, we state transparently that our study deviated from the preregistered protocol. Initially, our goal was to explore the longitudinal within-person associations between FPE, suppression, and social anxiety. However, this approach posed issues relating to multicollinearity and estimation difficulties, prompting us to refrain from incorporating these variables into a single model. This decision was also guided by theoretical considerations to also include FNE and two additional emotion regulation strategies relevant to social anxiety. By doing so, we aimed to obtain a more comprehensive understanding of the intricate connections between these variables.

Conclusion

Taken together, the present findings provide novel insights into the tangled interrelations between social anxiety, fears of evaluation, and emotion regulation strategies in adolescents, illuminating both between-person differences and within-person dynamics. By disentangling these two levels of variance, we can better elucidate the complex mechanisms operating between and within individuals. Hence, this novel approach contributes to a better, more nuanced understanding of the links between adolescents' evaluation fears and emotion regulation difficulties and provides new anchors for developmental psychopathology in general. We believe that such knowledge will improve our understanding of the developmental trajectories of social anxiety during adolescence and help refine targeted interventions for young people.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/S0954579424001366>.

Data availability and open science statement. Data sets, codes, and outputs for the analyses can be found at <https://osf.io/hzmvc>. The preregistration of this study can be found at <https://osf.io/fgeb3>.

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Competing interests. None.

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