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The Burden of Being Seen: A Multimethod Investigation of
Bivalent Fears of Evaluation and Emotion Regulation in
Adolescent Social Anxiety

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Preamble

Following his family's move to a new city, 14-year-old S¹. is preparing to begin the upcoming school year at a new school. Over the summer, he has found himself increasingly preoccupied with how his new classmates might judge him, whether they will like him, and if he will be able to fit in. These thoughts seem to linger and resurface throughout the day, keeping him constantly on edge. Even in brief encounters with unfamiliar people, S. has begun to feel self-conscious. He replays conversations in his head, worrying that he may have said something awkward or inappropriate. His emotional reactions feel stronger than before, with seemingly small moments leaving him unsettled far longer than they once did. Though he cannot fully explain why, S. senses that being around others has become harder than it used to be.

Whether it is giving a class presentation, meeting new people, or asking for help at school, many adolescents are familiar with the fear of being negatively judged by others (Spence & Rapee, 2016). In fact, these fears of social evaluation, which often center on worries about saying or doing something embarrassing, increase and peak during this developmental stage, while other childhood fears like fear of parental punishment decrease (Essau et al., 1999; Westenberg et al., 2004, 2007). This rise in evaluation fears coincides with the social and biological transitions of adolescence, such as increased autonomy and socialization pressures (Nelson et al., 2005), heightened autonomic reactivity to social-evaluative stress (Sumter et al., 2010), and increased sensitivity of socio-affective brain circuitry to peer evaluation (Somerville, 2013). Consequently, this surge in social fears is

¹ This is a fictional example. Any similarities to real people are purely coincidental.

widely regarded as part of normative socio-cognitive and pubertal development (Ollendick et al., 2014). Yet, despite their near ubiquity, these fears can become excessive. When they do, they can contribute to the development of *social anxiety disorder* (SAD) (Fredrick & Luebbe, 2024; Peker & Akkuş, 2024), which ranks among the most prevalent anxiety disorders in adolescence (Burstein et al., 2011; Knappe et al., 2015; Ollendick et al., 2014) and is associated with substantial impairment across academic, social, and family domains (Aderka et al., 2012; Spence & Rapee, 2016). Notably, social anxiety can be meaningfully impairing even when symptoms remain below diagnostic thresholds (Epkins & Heckler, 2011).

Traditionally, research on social anxiety has focused on *fear of negative evaluation* (FNE), the concern of being judged unfavorably (Weeks & Howell, 2014). However, growing attention has been directed toward a related but distinct construct, namely the *fear of positive evaluation* (FPE), which refers to discomfort and distress in response to praise or positive feedback (Weeks, Heimberg, & Rodebaugh, 2008). Although FPE and FNE are strongly correlated, FPE has been shown to make a unique contribution to social anxiety, explaining up to 9% more variance beyond that accounted for by FNE (Cook et al., 2022). Furthermore, empirical findings have linked FPE to several features of social anxiety, including heightened physiological arousal during social situations (Karp et al., 2018), greater reliance on safety behaviors (Lipton et al., 2014), and reduced trait positive affect and positive automatic thoughts (Weeks & Howell, 2012). Together, these findings suggest that FPE may play a central role in the *positivity impairment* characteristic of social anxiety, i.e., the diminished experience of positive emotions and the tendency to dampen or suppress them when they do occur (Gilboa-Schechtman et al., 2014). Rather than being limited to fears of criticism or rejection, social anxiety thus appears to involve a broader sensitivity to evaluation of any kind, including social feedback that is positive (Hofmann, 2025).

The challenges brought on by the developmental transitions in adolescence can also be difficult to navigate, as emotional development during this period is itself in flux; affective reactivity and negative emotionality intensify, while the development of effective emotion regulation often lags behind (Cracco et al., 2017). For instance, although the repertoire of emotion regulation strategies appears to be broadened during this phase, studies suggest that adolescents rely increasingly on strategies generally viewed as maladaptive, such as suppression and rumination, while the use of relatively more adaptive strategies like acceptance declines (Cracco et al., 2017; Sanchis-Sanchis et al., 2020). Notably, high levels of social anxiety are consistently linked with this profile of emotion regulation difficulties (Brozovich & Heimberg, 2008; Dryman & Heimberg, 2018; Jazaieri et al., 2015; Mathews et al., 2014) and, although yet unexplored, evaluation fears appear to be an important driver of these regulatory patterns: The wish to remain inconspicuous and avoid evaluation may encourage suppression of emotional expression (Jazaieri et al., 2015); negative and positive emotions elicited by evaluative contexts can be difficult to tolerate or accept (Mathews et al., 2014), and rumination may emerge as adolescents repeatedly revisit past social encounters in an attempt to identify mistakes or shortcomings and, in doing so, prepare for or prevent future evaluation (Brozovich & Heimberg, 2008; Yoshinaga et al., 2020).

Against this backdrop, the present dissertation aimed to investigate the role of fears of evaluation in adolescent emotion regulation, with a particular focus on fear of positive evaluation. It consists of four scientific contributions based on two complementary studies: The first study was an anonymous longitudinal online study on which **Chapters 1** and **2** are based: **Chapter 1** examined whether fears of evaluation explain the associations between social anxiety and specific emotion regulation difficulties (acceptance, suppression, and rumination) within a cross-sectional framework; **Chapter 2** extended this investigation using a longitudinal analysis to test prospective and reciprocal associations between fears of

evaluation, emotion regulation, and social anxiety across three time points over a period of six months. The second study employed *ecological momentary assessment* (EMA) to examine these processes in adolescents' daily lives served as the basis for the analyses in **Chapters 3 and 4**. While **Chapter 3** focused on how social anxiety relates to daily emotion regulation and affect, **Chapter 4** investigated how fears of evaluation are associated with affective and regulatory responses to positive feedback in real-world contexts. Together, these studies aim to advance our current understanding of how fears of evaluation, particularly FPE, contribute to emotion regulation difficulties and impaired affect in adolescents during this critical developmental stage. Since fears of social evaluation and emotion regulation difficulties often arise during this time and affect many adolescents even in the absence of a formal diagnosis of SAD (Cracco et al., 2017; Spence & Rapee, 2016), the studies presented in this dissertation drew on nonclinical adolescent samples. This approach made it possible to examine how these processes manifest across the full continuum of social fears and emotion regulation, including emerging patterns that may precede the development of clinically diagnosable social anxiety.

Theoretical Background

Social Anxiety in Adolescence

With the perception of oneself through the eyes of others becoming a central source of concern during adolescence, it is not surprising that social anxiety most commonly emerges during this developmental period (Ollendick et al., 2014). Numerous studies have identified the typical age of onset of SAD between 10 and 16 years (Knappe et al., 2011, 2015), with some suggesting a particularly narrow window of vulnerability between 15 and 17 (Kessler et al., 2012) and others between 13 and 15 years (for male adolescents; Aune et al., 2022). Across Western countries, the lifetime prevalence of this disorder in adolescence is estimated to range between 6% and 12% (Burstein et al., 2011; Essau et al., 1999; Kessler et al., 2012;

Knappe et al., 2015), whereas global estimates place it at around 8.3% in adolescents and 17% in youth (up to 24 years of age; Salari et al., 2024), indicating a progressive increase with age. Indeed, if left untreated, SAD often follows a chronic yet fluctuating course and commonly persists into adulthood, with community studies reporting a mean symptom duration of 19 to 25 years (Knappe et al., 2015). Strikingly, remission rates can be substantially lower than those of other internalizing disorders (Bruce et al., 2005), and the prognosis is particularly poor when fears extend across both interactional and performance situations (Knappe et al., 2011). Consequently, comorbidity rates are high, ranging from 69% to 99% (Knappe et al., 2015), whereby the most common comorbid conditions are depression, other anxiety disorders, and substance use problems, which typically follow the onset of SAD (Kessler et al., 2012; Knappe et al., 2015). Importantly, recent evidence suggests that social anxiety in adolescents is on the rise: Between 2013 and 2021, the prevalence of high social anxiety, as indicated by scores exceeding commonly used cut-offs on a brief screening instrument (Mini-SPIN; Ranta et al., 2012; Wiltink et al., 2017) increased from 14% to 21% among boys and from 24% to 47% among girls (Ranta et al., 2024). The authors attributed these increases to the COVID-19 pandemic and its associated disruptions to schooling and peer contact, as well as broader societal changes such as increased use of social media.

Importantly, social anxiety is understood as existing on a continuum, meaning that many adolescents may be affected by debilitating social fears without necessarily meeting diagnostic criteria (Knappe et al., 2015; Spence & Rapee, 2016). These fears are often accompanied, or soon followed, by avoidance behaviors, the severity of which can increase social anxiety symptoms and predict the onset of SAD and other psychological disorders (Epkins & Heckler, 2011; Ernst et al., 2023; Miers et al., 2014; Mörtberg et al., 2022). Social anxiety in adolescence is further accompanied by negatively distorted self-images, as well as

biased interpretations of social situations and negative expectations relating to their consequences (Spence & Rapee, 2016). These cognitive distortions are linked to behavioral patterns such as avoidance and safety behaviors (Schreiber et al., 2012), which can lead to lower likeability and reduced popularity (Henricks et al., 2023), as well as lower self-esteem and increased loneliness (Geukens et al., 2022). Moreover, social anxiety is associated with a tendency to experience more intense negative emotions and fewer positive emotions across social and non-social situations (Gilboa-Schechtman et al., 2014), as well as with difficulties in regulating these emotions (Golombek et al., 2020).

Social anxiety may thus be viewed as a key mental health issue in adolescence, given its contributions to substantial impairment across a variety of life domains and its potential to act as a risk-factor for the development of further psychopathology in both its clinical and subclinical forms (Aderka et al., 2012; Epkins & Heckler, 2011; Knappe et al., 2015; Spence & Rapee, 2016). The high prevalence of social fears and the early onset of SAD highlights adolescence as a critical intervention window, while its persistence and comorbidity rates underscore the need for early identification and treatment (Spence & Rapee, 2016; Knappe et al., 2015). Therefore, improving our understanding of the cognitive and emotional processes that contribute to the development and maintenance of social anxiety during adolescence is essential for developing more precise and effective interventions. To better understand the internal processes experienced by affected individuals in socially stressful situations, it is worth considering explanatory models that describe how these processes unfold.

The Cognitive-Behavioral Model of Social Anxiety Disorder

On the first day of school, the teacher asks S. to come forward and introduce himself by talking about his hobbies and interests in front of the class. As he walks to the front, he immediately becomes aware of every gaze in the room. His

heartbeat quickens, his legs feel unsteady, and his hands begin to tremble. He worries that he has nothing interesting to say and that everyone will find him dull. As he starts to speak about himself, his interest in sports and his favorite football team, he divides his attention between the teacher's and his classmates' expressions, his shaking hands, and an inner image of himself looking nervous. He notices a few classmates looking away and immediately interprets this as proof that they find him boring. The thought makes him tense up even more, his voice falters, and he can think of nothing but finishing as fast as possible. Throughout the remainder of the talk, he avoids looking directly at either the teacher or his classmates and instead focuses on the clock on the classroom wall. When he finally sits down, one thought repeats in his mind: That went terribly.

Among the most well-established models of social anxiety are the cognitive model of social phobia (D. M. Clark & Wells, 1995) and the cognitive-behavioral model of social anxiety disorder (Heimberg et al., 2014; Rapee & Heimberg, 1997). Both offer a framework for understanding the internal experiences of socially anxious individuals in social situations and emphasize similar mechanisms underlying the intense fears of evaluation that accompany them. The following section focuses specifically on the cognitive-behavioral model of social anxiety disorder, which provides a detailed account of the cascade of cognitive, emotional, and behavioral processes that play out when socially anxious individuals are in the presence of others (Heimberg et al., 2014).

According to this model, during a perceived or anticipated social situation in which there is an “audience”, socially anxious individuals form an internal image of how they are being perceived. This image is influenced by various factors, such as past experiences and negative core beliefs, and is therefore likely to be negatively skewed. At the same time,

attentional resources are divided between monitoring the self for internal signs of weakness, stress, or inadequacy that might be noticed by others, and monitoring the environment for external indicators of evaluation. While monitoring both this inner image and external signs of feedback, they overestimate the audience's evaluative standards and the potential consequences of falling short. This chain of cognitive and attentional distortions triggers physiological arousal, anxious thoughts, and safety behaviors, with the latter reducing immediate discomfort but ultimately creating a feedback loop that exacerbates anxiety. Even when the environmental cues point to a positive evaluation by the "audience", these may be ignored or misinterpreted, hindering their successful integration in the individual's self-image, further fueling the overall negative interpretation of the social situation (Heimberg et al., 2014).

Positive Affect and Experiences in Social Anxiety: The Positivity Impairment

As S. walks back to his desk, the teacher thanks him for his presentation and expresses enthusiasm about having him in class. A few classmates smile and invite him to play football over the weekend. S. feels a brief wave of relief, even a little happiness and excitement. Yet this feeling, still accompanied by a pounding sensation in his chest, quickly fades as doubts surface and he begins to question whether the teacher was simply being polite or whether his classmates were joking. Instead of enjoying the moment, he becomes tense again, and his thoughts return to the moments during his presentation when he was visibly shaking. He worries about how he looked and thinks that he must have embarrassed himself.

What happens when that dreaded class presentation actually goes well and both the teacher and classmates are impressed? Or when newly introduced peers express genuine

interest and appreciation? For the majority of individuals, such positive feedback is appreciated, leading to gains in self-esteem (Van Schie et al., 2023) and perceived self-efficacy (Peifer et al., 2020). Yet, for some individuals, such situations evoke not relief but discomfort and distress. In particular, for those experiencing social anxiety, positive social situations and the emotions they elicit are often not readily accepted or integrated but are instead misinterpreted, downplayed, and dampened (Gilboa-Schechtman et al., 2014).

Earlier accounts of anxiety and depression characterized anxiety as primarily marked by heightened negative affect and increased physiological arousal, whereas reduced positive affect was considered a hallmark of depression (as outlined in the tripartite model of anxiety and depression; L. A. Clark & Watson, 1991). These assumptions with regards to social anxiety have been partly supported. Indeed, it has consistently been linked to elevated negative affect in general (Morrison & Heimberg, 2013), and during social situations (Geyer et al., 2018). Social anxiety has also been associated with higher subjective and objective physiological arousal during social stress (Gramer et al., 2012), although the latter has not been found consistently; in fact, it appears that it is the subjective experience of autonomic arousal that is elevated in individuals with social anxiety, while objective measures tend to show higher arousal overall but blunted responses to social threat, although these findings can vary as a function of symptom severity and clinical status (Petrowski et al., 2021; Siess et al., 2014). Despite these nuances, and although the precise mechanisms underlying autonomic arousal in adolescent social anxiety remain unclear, the broader points to a pattern of dysregulated affect and autonomic functioning (van den Bos et al., 2017).

Over time, research on the emotional profile of social anxiety revealed that, unlike other anxiety disorders, it also involves deficits in positive affect. Evidence shows that socially anxious individuals experience diminished positive affect both in social contexts and more broadly (Brown et al., 1998; Gilboa-Schechtman et al., 2014). Trait-level studies have

found inverse associations between social anxiety and positive affect, both cross-sectionally (Cohen & Huppert, 2018) and longitudinally (Kashdan & Breen, 2008). Regarding everyday experiences, socially anxious individuals report spending more time feeling angry and less time feeling happy (Kashdan & Collins, 2010). Moreover, negative affect is more unstable and fluctuates strongly across the day, whereas positive affect is generally and reliably low (Farmer & Kashdan, 2014; Zhou & Van Zalk, 2025). In addition, socially anxious individuals tend to dampen and fail to savour positive emotions (Eisner et al., 2009), leaving them less able to sustain positive affect and more prone to slip back into negative states (Farmer & Kashdan, 2014; Kashdan et al., 2013).

This positivity impairment extends beyond affect itself to the processing of positive social information. Alden and colleagues (2008) demonstrated that individuals high in social anxiety interpret positive social events more negatively. Similarly, Gilboa-Schechtman and colleagues (2000) found that socially anxious participants underestimated the likelihood of positive events and simultaneously overestimated the likelihood and potential impact of negative ones. Even when confronted with clear positive feedback, socially anxious individuals tend to focus selectively on what they perceive to be negative cues, effectively ignoring the positive aspects of the interaction (Bautista & Hope, 2015). Compliments may thus be met with scepticism, their sincerity or accuracy questioned (Vassilopoulos & Banerjee, 2010), and often experienced as discomforting rather than rewarding; conversely, negative feedback can paradoxically feel more familiar and thus more tolerable (Howarth & Forbes, 2015). These interpretation biases can be rigid and resistant to correction (Everaert et al., 2020), reinforcing both nonacceptance and dampening of positive emotions (Eisner et al., 2009; Everaert et al., 2020) and mediating the link between social anxiety and reduced positive affect (Vassilopoulos & Banerjee, 2010).

In sum, social anxiety is marked not only by heightened negative affect and dysregulated physiological arousal (L. A. Clark & Watson, 1991) but also by a distinctive positivity impairment that distinguishes it from other anxiety disorders (Brown et al., 1998; Gilboa-Schechtman et al., 2014). One factor increasingly recognized as central to this impairment is the fear of positive evaluation (Reichenberger & Blechert, 2018).

Fear of Positive Evaluation

Sitting at his desk, S. keeps thinking about what happened. The teacher said she was excited to have him in class. Did that mean she expected something exceptional from him? What if he cannot meet those expectations? His thoughts drift to his classmates as well. After mentioning that he plays football, do they now assume he is particularly talented? Do they think he was trying to impress them? He becomes increasingly uneasy at the idea that others might see him as more confident than he feels inside, perhaps even as someone who is showing off. As the moment settles, S. starts to wish the exchange had never happened. Maybe it would have been easier if he had kept quiet about his interests altogether. Remaining unnoticed seems safer than risking the possibility of disappointing others later on. The brief feelings of relief he felt now feel misplaced, almost embarrassing and dangerous. S. decides that next time he will do his best not to draw any attention to himself.

Even if the social evaluation is nominally positive, for some individuals, it can trigger certain fears and worries about its potential consequences. This reaction reflects a phenomenon that has received growing empirical attention in the last two decades: the fear of positive evaluation (Weeks et al., 2008). Defined as apprehension and unease in response to

praise, approval, or positive attention, FPE represents a paradoxical but clinically relevant dimension of social anxiety (Cook et al., 2022; Fredrick & Luebbe, 2020; Reichenberger & Blechert, 2018). Accordingly, accumulating evidence has suggested that evaluation of any kind may be perceived as threatening by socially anxious individuals (Hofmann, 2025). This led Weeks and Howell (2012) to propose the *bivalent fear of evaluation* (BFOE) model, which conceptualizes FNE and FPE as distinct but correlated constructs, each contributing uniquely to the phenomenology and maintenance of social anxiety.

One framework providing an explanation for this counterintuitive reaction is offered by the psycho-evolutionary theory of social anxiety (Gilbert, 2001): According to this theory, fears of evaluation function as regulatory mechanisms aimed at maintaining one's own position within a social environment that is perceived to be hierarchically structured. By discouraging behaviors that might elicit negative evaluations, FNE may protect against downward shifts in social rank and the threat of group exclusion. In contrast, FPE works in the opposite direction, reducing the likelihood of attracting unwanted attention, provoking conflict with perceived "higher status" group members, and potentially destabilizing existing group dynamics (Reichenberger & Blechert, 2018). Therefore, individuals experiencing heightened FPE may worry that praise directed at them could carry negative social consequences. Empirical findings support this assumption, showing that FPE is uniquely associated with *concerns of social reprisal*, reflecting the fear that making a positive impression may lead others to resent them for "stealing the spotlight" (Cook et al., 2019; Weeks et al., 2015). As a result, positive social outcomes are frequently disqualified; successes are attributed to external factors such as luck or others' characteristics, while one's own abilities and contributions are actively downplayed (Weeks, 2010, 2015; Weeks & Howell, 2012). This process is thought to function as a safety behavior aimed at providing short-term relief from the discomfort of praise (Weeks, 2010) but ultimately undermines

confidence and reinforces social anxiety (Cook, 2019). Additionally, research has documented that individuals experiencing high FPE frequently doubt the accuracy of positive feedback (Weeks, Heimberg, Rodebaugh, et al., 2008) and may even prefer negative feedback (Howarth & Forbes, 2015) or no feedback at all (Weeks et al., 2010). Qualitative studies aiming to uncover the underlying factors behind FPE have highlighted fear of increased expectations and worry about others' feelings as further drivers of FPE (Wilson et al., 2022). In addition, a newly developed scale confirmed stronger associations between FPE and core beliefs pertaining to fears that showing one's talents will lead to reprisal, increased expectations, as well as negative social consequences as a product of being perceived as "showing off" (Cook, Bryant, et al., 2024; Cook, Felmingham, et al., 2024). Taken together, these findings suggest that FPE aims to protect against the risks of visibility, recognition, and standing out.

Correlates and Consequences of FPE

As such, FPE has been linked to a broad range of maladaptive outcomes in adult samples. The following section presents evidence on FPE's cognitive, emotional, behavioral, and physiological correlates, moving from cross-sectional to experimental, longitudinal, and intensive longitudinal studies.

Cross-sectional research shows that FPE accounts for unique variance in social anxiety symptoms beyond FNE (Cook et al., 2022). It is also associated with depressive symptoms and reduced quality of life (Weeks et al., 2012), as well as with low positive affect and fewer positive automatic thoughts (Weeks & Howell, 2012). In addition, a combination of high FPE and high FNE has been found to be associated with higher levels of internalizing symptoms compared to low levels of both or high levels of either evaluation fear (Lipton et al., 2016).

Multiple experimental studies have further attempted to isolate the role of FPE in shaping individuals' responses to social tasks and to the receipt of positive evaluation. For instance, studies exposing participants to a social challenge followed by evaluative feedback have shown that FPE is associated with discomfort and anxiety in response to praise, as well as with doubts about its accuracy (Weeks, Heimberg, Rodebaugh, et al., 2008). Carter and colleagues (2012) suggested that the effect of FPE on anxious responses is especially salient when participants anticipate further evaluation, while a more recent study using a standardized social affiliation task in a clinical sample found that FPE was linked to pre- and post-interaction anxiety, even in the absence of the possibility of repeated encounters (Rassaby et al., 2024). Studies examining physiological reactions to social evaluation complement these results: Weeks and Zoccola (2015) showed that individuals with high FPE displayed elevated heart rate before and during a speech task and failed to show the expected rise in positive affect following the speech task, whereas Lipton and colleagues (2020) demonstrated that FPE specifically predicted self-reported arousal following positive feedback, in contrast to FNE, which predicted arousal following negative feedback. In evaluative situations without real-time interactions, Reichenberger and colleagues (2015) reported that FPE was associated with greater unpleasantness ratings of pre-recorded positive evaluative statements. Similarly, Azoulay and Gilboa-Schechtman (2024), using a novel digital manipulation of perceived social ranking, found that when participants believed they were being judged favorably in a high-status condition, FPE was tied to reduced belongingness, emotions of inferiority, and concerns about self-representation. Other experimental work, while not focused specifically on FPE, points to related mechanisms in social anxiety more broadly; for example, socially anxious individuals anticipate less positive and more negative evaluations (Barber & Moscovitch, 2016), exhibit gaze avoidance in response to evaluative video clips (Weeks et al., 2013), report heightened anxiety and

repetitive negative thinking regardless of feedback type (McEvoy et al., 2023), and tend to overattend to negative cues while discounting positive ones, generating fewer positive cognitions in mixed-feedback conditions (Bautista & Hope, 2015). These findings indicate that it is through FPE that social anxiety might be linked to these specific difficulties with processing positive social information.

To date, only few studies have examined the prospective effects of FPE. Evidence suggests that it predicts subsequent social anxiety symptoms above and beyond FNE, highlighting its role as a potential risk factor for the development and maintenance of social anxiety (Peker & Akkuş, 2024). However, Johnson and colleagues (2020), studying a clinical sample undergoing treatment, found that FPE and FNE predicted each other but that only FNE directly predicted later social anxiety severity. That said, the participants of this study were undergoing psychological treatment directly targeting FNE during the study period, leading the authors to note that they may not have captured FPE's full predictive power. Finally, further work has shown that FPE is prospectively associated with anhedonia, i.e., difficulties in experiencing pleasure, which in turn mediated the relationship between FPE and broader depressive symptoms (Jordan et al., 2018).

Turning to intensive longitudinal approaches, one study found that FPE interacted with stress originating from distal social networks to predict heightened negative affect (Reichenberger et al., 2018). However, a more recent study reported no significant associations between FPE and stress- or affect-related variables once depressive symptoms were taken into account, although this study did not explicitly assess social evaluative situations (Reichenberger et al., 2024).

Fear of Positive Evaluation in Adolescence

Although fears of evaluation are particularly pronounced in adolescence and FPE may thus be especially impactful during this developmental stage (Cook et al., 2022), studies

examining its correlates in youth remain relatively scarce. Nevertheless, some of the findings from adult samples have been reproduced in adolescent populations. For example, FPE has been linked to avoidant and submissive behaviors and to social anxiety in both community (Vagos et al., 2016) and clinical (Lipton et al., 2014) samples. Moreover, experimental studies employing social interaction tasks have found FPE to be associated with heightened self-reported arousal (Karp et al., 2018; Szollos et al., 2019), as well as with self-reported and observer-rated social anxiety, with effects that often exceeded those of FNE (Botkin et al., 2021). Relatedly, Olino and colleagues (2023) reported that while FNE was linked to a broader range of psychopathology, FPE was uniquely related to social anxiety and appeared more salient in adolescence than in childhood.

Regarding longitudinal investigations in this age group, recent work suggests a pattern distinct from adult populations: whereas in adults FPE has been shown to act as a risk factor, in adolescence FPE seems to emerge downstream of social anxiety, while FNE functions as the more robust predictor of later symptoms (Fredrick & Luebke, 2024).

Fear of Positive Evaluation in Social Anxiety: Interim Overview

In sum, studies investigating FPE highlight that in social anxiety, fears are not limited to rejection or criticism but extend to the risks of positive attention and recognition (Weeks & Howell, 2012). While these fears may serve an evolutionary function in protecting against group conflict or exclusion, they distort the way individuals process social information. Positive feedback is doubted or disqualified (Cook et al., 2019), attributed externally rather than internally (Weeks, 2010), and interpreted through the lens of potential reprisal (Weeks et al., 2015). Physiological arousal accompanies not only negative but also positive evaluation (Weeks & Zoccola, 2015; Lipton et al., 2020), undermining the ability to benefit emotionally from or appreciate praise. Over time, such processes reinforce social anxiety and contribute

to positivity impairments and even depressive outcomes (Jordan et al., 2018; Peker & Akkuş, 2024).

Adolescence may represent a particularly sensitive period for these dynamics, given the heightened salience of peer evaluation during this stage (Cook, 2022; Olino et al., 2023). The paradox of fearing praise thus potentially complicates how adolescents manage their emotions in evaluative situations: rather than accepting praise and the emotion it elicits, they may suppress the accompanying affect and subsequently brood about its implications. Taken together, these findings suggest that fears of evaluation may exert a significant influence on how emotions are regulated in adolescence. The next section therefore turns to the topic of emotion regulation, focusing on the three strategies that are consistently implicated in the context of social anxiety, i.e., suppression, nonacceptance, and rumination (Golombek et al., 2020; Mathews et al., 2014; Sackl-Pammer et al., 2019), and that may represent core mechanisms linking fear of evaluation to socio-emotional functioning.

Emotion Regulation

As the thoughts about how the presentation went circle in S.'s mind, he finds it difficult to manage the emotions it brought up. During the speech, he could feel his body reacting to stress, his heart beating fast and his hands trembling. These sensations felt uncomfortable and intolerable, and he believed that if anyone noticed them, he would immediately appear embarrassing. Even the relief and excitement he felt when the teacher and classmates responded kindly felt dangerous, so he decided to hide them. Later that day, he kept replaying the event in his mind. Although he tried to push the thoughts away, they kept coming back, each time focusing on what he might have done wrong. The teacher's smile and the classmates' friendly looks faded from memory, replaced by the image of his

shaking hands and uneven voice. By the next morning, S. had promised himself to stay quiet in class and to hide how nervous he feels. Playing football with his classmates on the weekend no longer seemed like an option; he was certain he would only embarrass himself further.

Managing the emotions that arise in different contexts is a valuable skill that promotes psychological well-being (Gross, 2015). In line with their personal goals and the situational demands of a given situation, individuals may attempt to influence “what emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275). One of the most well-established models of these processes is the process model of emotion regulation (Gross, 2015; McRae & Gross, 2020), which has served as the theoretical framework for numerous studies on the topic since its conception. According to this model, emotion regulation consists of five families of strategies, each defined by the point in the emotion generative process at which it occurs and the component of that process it seeks to influence: *Situation selection* refers to making efforts to either approach or avoid situations that are expected to elicit certain emotional reactions; *situation modification* is defined as attempts to change aspects of a situation once one is already in it in order to change its emotional impact; *attentional deployment* reflects shifting one’s attention towards a differently valenced aspect of the situation in an effort to change how one feels; *cognitive change* refers to changing how one thinks about a certain situation and its emotional meaning in order to influence one’s emotional reaction; last, *response modulation* refers to altering experiential, behavioral, or physiological aspects of the emotional response after the emotion is elicited (Gross, 2015). These processes can occur consciously or automatically and may serve various goals: While emotion regulation is often associated with the downregulation of negative affect, individuals may also upregulate negative emotions, or also regulate positive

emotions, seeking to amplify or diminish them depending on the circumstances. The selection of a particular strategy depends on various factors such as the type and intensity of the emotion, the cognitive resources required, and the broader situational context (Matthews et al., 2021; Sheppes et al., 2014). Thus, no strategy is inherently adaptive or maladaptive; rather, flexibility in choosing and implementing strategies across different situations is considered the deciding factor of effective regulation (Aldao et al., 2015).

In the context of the present dissertation, attention is directed toward three strategies that have shown consistent links with social anxiety in adolescence and may be influenced by fears of evaluation: nonacceptance of emotions, expressive suppression, and rumination. Evaluation fears, whether concerning negative judgment or unwanted positive attention, can shape not only adolescents' emotional experiences but also how these emotions are managed. Suppressing visible affect to avoid scrutiny (Jazaieri et al., 2015), rejecting one's own emotional arousal during evaluative situations (Kashdan et al., 2014), and repeatedly ruminating about past social encounters (Brozovich & Heimberg, 2008) represent key regulatory processes that may contribute to both the maintenance and exacerbation of social anxiety. The following section reviews empirical findings on social anxiety and these three emotion regulation strategies, drawing on evidence from studies using cross-sectional, experimental, longitudinal, and intensive longitudinal designs.

Social Anxiety and Nonacceptance of Emotions

Acceptance of emotions refers to an open, nonjudgmental stance toward internal emotional experiences, characterized by a willingness to engage with emotions without trying to alter their trajectory (Goldin et al., 2019; Hayes et al., 1996). Importantly, although acceptance does not involve the active change of emotional states, it extends beyond passive resignation; instead, it requires a deliberate willingness to engage with the emotional experience and to interrupt automatic patterns of mental elaboration that may arise in

response to distress (Dixon et al., 2020). A prerequisite for an openness towards emotional experiences is the set of beliefs individuals hold about them: if emotions are perceived as dangerous, uncontrollable, or inherently “bad,” acceptance becomes especially difficult (Ford & Gross, 2018, 2019). Given that social anxiety is often characterized by fears of being seen as weak, anxious, or even drawing unwanted attention through the expression of positive emotions (Heimberg et al., 2014; Jazaieri et al., 2015), these beliefs are particularly relevant to its phenomenology. Indeed, research has shown that socially anxious individuals endorse maladaptive beliefs about emotions, viewing them as signs of weakness that must be concealed to avoid rejection (Spokas et al., 2009) or fearing the consequences of both negative and positive affect (Turk et al., 2005). In addition, individuals with social anxiety maintain that their emotions are uncontrollable (Daniel et al., 2020; De Castella et al., 2014). Together, these findings suggest that social anxiety is marked by heightened negative reactivity and intolerance toward internal states, which promote ineffective regulation and overall avoidance of emotions (Kashdan et al., 2008, 2014)

In adults, cross-sectional research consistently shows that social anxiety is associated with nonacceptance of emotions, often coupled with poor emotional understanding (Mennin et al., 2009), in both social interaction and performance situations (Rusch et al., 2012). Such a stance can exacerbate anxious arousal, worry, and anhedonia, amplifying distress in socially anxious individuals (Kashdan et al., 2008). During real-life dyadic interactions, experiential avoidance (a construct defined as a reluctance to engage with internal experiences that are perceived as negative; Hayes et al., 1996) and anxiety have been found to escalate each other in a reciprocal cycle, indicating that attempts to avoid negative emotions may inadvertently intensify them, rendering them even more difficult to tolerate. Analyses of daily life data have further demonstrated that experiential avoidance is used more strongly in situations

perceived as unsafe, such as those involving self-disclosure, which in turn predicts elevated social anxiety in those moments (Kashdan et al., 2014).

Findings with adolescents show similar patterns: Socially anxious youth report greater nonacceptance of negative emotions, pointing to the early emergence of maladaptive regulatory tendencies (Hambour et al., 2018; Mathews et al., 2014; Stork et al., 2023; Young et al., 2019), with some studies finding these associations in children as young as 10 years old (Keil et al., 2017; Lange & Tröster, 2014). Evidence on prospective associations are mixed, with a study finding no longitudinal associations between social anxiety and acceptance after controlling for age (Schneider et al., 2016), while another study with a clinical sample found that acceptance has an indirect effect on social anxiety via psychological inflexibility (Figueiredo et al., 2024).

Social Anxiety and Expressive Suppression of Emotions

The maladaptive beliefs about the nature of emotions, coupled with fears that expressing them might draw unwanted attention, naturally extend to the emotional expressive behaviors of individuals with social anxiety. In fact, suppression of emotions is a common strategy among socially anxious individuals and has been repeatedly linked to the disorder across different methodological approaches (Dryman & Heimberg, 2018; Jazaieri et al., 2015; Spokas et al., 2009). Paradoxically, suppression seems to have asymmetrical effects on affective experiences: While attempts to suppress negative emotions often prove ineffective or even intensify distress, suppression of positive emotions reliably and effectively diminishes their experience (Gross, 2015).

Cross-sectional studies show that socially anxious individuals tend to suppress negative emotions more often than individuals with low social anxiety, often driven by beliefs that emotional expression is a sign of weakness or a pathway to rejection (Bates et al., 2021; McBride et al., 2022; Spokas et al., 2009), as well as by beliefs that suppression is an

appropriate and effective way to cope with these fears (Kivity & Huppert, 2018).

Longitudinal evidence further suggests that social anxiety predicts higher suppression down the line (Gökdağ et al., 2024), and vice versa (Kashdan & Breen, 2008). Studies employing EMA indicate that patients with SAD report using suppression more frequently and more inflexibly than healthy controls (Goodman, Daniel, et al., 2021), with these tendencies partly explained by stronger endorsement of emotion-control values (the belief that emotions should be tightly regulated; Goodman, Kashdan, et al., 2021). Similarly, subclinical samples with high social anxiety also report greater use of suppression in everyday life, especially in situations involving intense negative affect (O'Toole et al., 2017; Zhou & Van Zalk, 2025).

Importantly, research has also demonstrated that suppression extends to positive emotions: Spokas et al. (2009) showed that suppression of positive emotions was tied to fears of emotional expression, with socially anxious individuals reporting that showing positive affect might be seen as weakness or lead to evaluation. In clinical samples, Blalock and colleagues (2016) found that suppressing positive emotions had a detrimental effect on participants' emotional experiences, leading to reduced daily positive affect. Similar effects were observed in community samples, uncovering links between daily social anxiety and suppression of positive emotions in daily life, which in turn predicted fewer positive events and diminished positive affect (Farmer & Kashdan, 2012; Kashdan & Steger, 2006; O'Toole et al., 2014).

Although findings in youth are scarce compared to those from adult samples, they point to the same direction (Golombek et al., 2020). Cross-sectional studies show that adolescents with higher social anxiety report greater use of expressive suppression, which is linked to lower self-esteem and poorer psychosocial adjustment (Gómez-Ortiz et al., 2016, 2018, 2019; Sackl-Pammer et al., 2019). Although evidence on the link between social anxiety and expressive suppression in daily life is particularly scarce, a study with a younger

sample indicated that children aged 10–13 with SAD use suppression more frequently in social situations than both mixed-anxiety and typically developing peers, and this tendency prospectively predicts higher levels of social anxiety symptoms one year later (Hauffe et al., 2024).

Social Anxiety and Rumination

Social anxiety is further often characterized by rumination (Heimberg et al., 2014), a transdiagnostic phenomenon characterized by a repetitive negative thinking about one's distressing symptoms and their causes and consequences, without engaging in active efforts to resolve them (McLaughlin & Nolen-Hoelsema, 2011). The content of these repetitive thoughts can vary depending on the fear that defines them; in the case of social anxiety, this often involves social situations and, more specifically, the perceived inadequacies displayed during those situations (Brozovich & Heimberg, 2008). Given the tendency of socially anxious individuals to hyperfocus on themselves and on how they believe they are being perceived (Heimberg et al., 2014), negative social information is highly accessible and easy to later recall, whereas potentially positive cues are often overlooked (Brozovich & Heimberg, 2008). This process, known as *post-event processing* (PEP) or post-event rumination, represents the last step in a vicious cycle, starting from self-focused hypervigilance during a social event which is then followed by excessive concentration on its (perceived) negative aspects. Consequently, PEP consolidates negative memories, reinforces negative self-perceptions, and maintains social anxiety (Everaert et al., 2020; Flynn & Yoon, 2025; Hofmann, 2007). It is worth noting that the measurement of rumination or PEP varies from study to study, with some researchers opting for assessing rumination in response to social events (i.e., post-event rumination; e.g., Kane & Ashbaugh, 2022), and others assessing general rumination (e.g., Bean & Ciesla, 2024), while others use the two terms interchangeably (e.g., Zou & Abbott, 2012). While the assessment strategy potentially

influences the effects uncovered, the core mechanism of repetitive thoughts centering around perceived inadequacies remains comparable. Thus, the next section reviews findings from studies assessing both PEP and general rumination.

Cross-sectional research has demonstrated robust associations between social anxiety and (post-event) rumination in adult community samples (Badra et al., 2017; Fehm et al., 2007; Kane et al., 2023) and clinical samples (Blanco & Joormann, 2017; Modini et al., 2018). Regarding situational triggers, PEP is more common after social compared to other phobic events (Fehm et al., 2007). Experimental work further suggests performance situations (e.g., speeches) are particularly potent drivers of PEP compared to social interactions (Kiko et al., 2012; Makkar & Grisham, 2011). In such contexts, social anxiety has been linked to heightened anticipatory anxiety and negatively biased interpretations of ambiguous scenarios (Brozovich & Heimberg, 2013), more negative self-perceptions (Makkar & Grisham, 2011), as well as lower self-rated performance and reduced willingness to re-enter social situations (Rowa et al., 2016). Paradoxically, some individuals with SAD endorse PEP as beneficial. In line with findings on maladaptive beliefs about the effectiveness of suppression (Kivity & Huppert, 2018), a qualitative study by Yoshinaga and colleagues (2020, p. 364) found that patients described PEP as the “only safe and useful way to improve themselves”. Although most did not achieve the desired benefits, they believed PEP reduced the likelihood of future mistakes and negative evaluations. Relatedly, Zou and Abbott (2012) showed that highly socially anxious individuals reported more PEP following moderate feedback, failed to integrate positive feedback, and maintained stable levels of low positive affect in both feedback conditions. The authors attributed these effects to socially anxious individuals’ fears of positive evaluation, specifically to the fear that partner’s expectations of them would increase following the receipt of positive feedback. Additionally, intensive longitudinal analyses have shown that socially anxious individuals reported more PEP after negative-

evaluative events (Lundh & Sperling, 2002), especially when anxiety during those events was high (Kane & Ashbaugh, 2022). Longitudinal designs further show reciprocal effects, with rumination predicting social anxiety and vice versa in adults (Wu et al., 2024); in addition, greater daily variability in rumination has been linked to higher risk for later SAD (Bean & Ciesla, 2024).

Turning to adolescence, although the evidence base is again more limited than in adulthood, post-event and general rumination have nevertheless been consistently linked to higher social anxiety in this developmental period (Hodson et al., 2008; Klemanski et al., 2017; Lane et al., 2025; Masters et al., 2021; Sackl-Pammer et al., 2019; Schreiber et al., 2012; Yu & Wang, 2024; Zhang et al., 2025). Similarly, children with SAD report higher rumination than healthy controls (Keil et al., 2017), and more negative post-event rumination specifically after social-evaluative tasks, independent of depression (Lidle & Schmitz, 2021; Schmitz et al., 2011). Interestingly, longitudinal evidence diverges somewhat from adult findings: in adolescents, social anxiety predicted later rumination but not vice versa (Jose et al., 2012).

Integrative Summary and Rationale

Taken together, the evidence suggests that social anxiety is fundamentally characterized by a heightened sensitivity to evaluation (Hofmann, 2025; Weeks & Howell, 2012). Both FNE and FPE have emerged as distinct but correlated constructs that uniquely contribute to the phenomenology and maintenance of the disorder (Weeks & Howell, 2014). These fears appear to shape how socially anxious individuals approach and process social encounters, reflecting potent drivers of emotion-regulatory processes aimed at relieving momentary discomfort, avoiding attention, and preparing for future evaluative situations (Brozovich & Heimberg, 2008; Dryman & Heimberg, 2018; Jazaieri et al., 2015). FNE, together with maladaptive beliefs that emotions are uncontrollable signs of weakness (Daniel

et al., 2020; De Castella et al., 2014; Spokas et al., 2009) that should be contained to avoid negative judgements (Rusch et al., 2012), may foster difficulties accepting and tolerating emotional experiences. On the other end of the evaluative spectrum, FPE may inhibit the acceptance and savoring of positive emotions (Eisner et al., 2009; Gilboa-Schechtman et al., 2014), leading individuals to dampen pleasurable experiences (Kashdan et al., 2013) and maintain negative affect (Weeks & Howell, 2012). Similarly, both fears of evaluation have been proposed as key contributors to the overreliance on suppression observed in social anxiety (Dryman & Heimberg, 2018; Jazaieri et al., 2015). Because emotional expression can invite social scrutiny, socially anxious individuals may suppress negative emotions out of fear of appearing weak or vulnerable (Bates et al., 2021; Spokas et al., 2009), and suppress positive emotions to avoid appearing arrogant or “showing off” (Cook, Felmingham, et al., 2024; Weeks, 2010). Finally, FNE may fuel tendencies to hyperfocus on perceived flaws and brood over past social situations in which one was observed and possibly evaluated (Brozovich & Heimberg, 2013; Fehm et al., 2007), whereas FPE, by hindering the acceptance of positive aspects of social encounters, may further encourage rumination and post-event processing that consolidate negative self-views and block the integration of positive feedback into one’s self-concept (Zou & Abbott, 2012). Collectively, these three emotion regulation processes, i.e., nonacceptance, suppression, and rumination, interfere with the affective functioning of socially anxious individuals. Nonacceptance limits effective regulation of negative emotions (Campbell-Sills et al., 2006) and prevents full engagement with positive affective states (Turk et al., 2005); suppression of negative emotions amplifies distress while simultaneously reducing positive affect (Blalock et al., 2016; Dryman & Heimberg, 2018); and rumination maintains and magnifies negative affect while positive experiences and emotions are neglected or disqualified (Everaert et al., 2020; Lundh & Sperling, 2002).

These processes may be especially relevant in adolescence, when social anxiety and fears of positive and negative evaluation commonly first emerge (Cook et al., 2022; Ollendick et al., 2014). A substantial proportion of adolescents experience at least one social fear during this stage, commonly relating to public speaking, interactions with peers, or performing in front of others (Essau et al., 1999), with some of these fears being classified as unreasonably strong (Knappe et al., 2015). This spike in fears of social evaluation during early to mid-adolescence (Westenberg et al., 2004, 2007), when combined with a shift toward emotion dysregulation (Cracco et al., 2017), can increase vulnerability to social anxiety (Lincoln et al., 2022; Masters et al., 2019), creating the conditions that promote avoidant behaviors and foster its development. Social anxiety during this stage is further understood as a developmentally relevant risk-factor, setting the stage for the later development of depressive disorders, substance use disorders, and in some cases psychosis (Knappe et al., 2015). Considering that social anxiety can be substantially impairing (Spence and Rapee, 2016) and predict subsequent depressive symptoms even in its subclinical forms (Epkins & Heckler, 2011), identifying factors that facilitate its development and maintenance in adolescence is a priority for mental health research and prevention.

Although the literature suggests that fears of evaluation contribute to the characteristic emotion regulation deficits observed in social anxiety, the precise nature of these associations remains poorly understood. Apart from a recent study examining the association between fears of evaluation and rumination and suppression in community sample of college students (Huang & Wang, 2024), no research has directly examined how fears of evaluation influence emotion regulation processes, especially during adolescence. Further, none have explicitly tested whether these fears serve as mediating or explanatory variables in the well-established associations between social anxiety and emotion dysregulation. Moreover, despite the concurrent rise of fears of social evaluation and emotion regulation difficulties during

adolescence, no longitudinal research has investigated their interplay across this developmental period. Thus, the temporal and potentially bidirectional associations between these constructs remain unclear. Finally, fear of positive evaluation and fear of negative evaluation as independent constructs have not yet been examined with respect to their effects on emotion regulation in the everyday lives of adolescents. Understanding how these fears manifest in daily affective experiences and regulatory responses is essential for clarifying the mechanisms through which social anxiety develops and is maintained during this vulnerable developmental stage.

The Present Thesis

The overarching goal of this dissertation was to address these gaps in the literature by examining the associations between both fear of positive and negative evaluation and emotion regulation in adolescence. To this end, two independent studies were conducted over a period of three years, resulting in four scientific papers, two derived from each study, that collectively aimed to answer a central research question using complementary methodological approaches. The first study was a longitudinal study consisting of three measurement points over a six-month period, designed to examine both cross-sectional and prospective associations between the variables of interest. The second study employed an EMA design to investigate these associations as they unfold in adolescents' daily lives and natural social environments.

Accordingly, this dissertation comprises four chapters. **Chapters 1 and 2** originate from the longitudinal study, whereas **Chapters 3 and 4** stem from the EMA study (see Table 1). **Chapter 1** examined the mediating role of fears of evaluation in the relationship between social anxiety and emotion regulation (Tsarpalis-Fragkoulidis et al., 2022) and was published in the *Journal of Clinical Medicine* (as part of a special issue on Clinical Updates in Psychology in Children and Adolescents). **Chapter 2** investigated the prospective and

bidirectional associations between fears of evaluation, social anxiety, and emotion regulation and was published in *Development and Psychopathology* (Tsarpalis-Fragkoulidis et al., 2024). **Chapter 3** explored the associations between social anxiety and emotion regulation in the daily lives of adolescents, with a particular focus on the mediating role of emotion regulation in linking social anxiety to dysregulated affect (Tsarpalis-Fragkoulidis et al., 2025), and was published in *Kindheit und Entwicklung* (as part of the special issue on emotion regulation). Finally, **Chapter 4** examined how fears of evaluation relate to affective reactions to positive feedback, emotion regulation responses following such feedback, and the mediating role of emotion regulation in connecting fears of evaluation to positive and negative affect in daily life. This paper has been submitted to *Child and Adolescent Psychiatry and Mental Health* (Tsarpalis-Fragkoulidis et al., 2025).

Research Questions and Hypotheses

The overarching research question guiding this dissertation was: *Are fears of positive and negative evaluation associated with emotion regulation in adolescence, and what is their role in the link between social anxiety and affect (i.e., diminished positive and heightened negative affect)?* Each of the four scientific contributions addressed parts of this overarching question using different statistical and methodological approaches, i.e., cross-sectional, longitudinal, and intensive longitudinal. The four specific research questions, each corresponding to a chapter of this thesis, were as follows:

Chapter 1

Research Question 1. *Do fears of positive and negative evaluation explain the association between social anxiety and the emotion regulation strategies acceptance, suppression and rumination?*

Hypotheses: Social anxiety was expected to be positively associated with both FPE and FNE. FNE was hypothesized to predict greater rumination and suppression but lower

acceptance, whereas FPE was expected to relate to reduced acceptance and increased suppression. The fears were further proposed to serve as distinct mediators linking social anxiety to regulation strategies, with FNE mediating pathways to both suppression and rumination and FPE primarily to suppression, while both were expected to contribute to lower acceptance. In turn, reduced acceptance was hypothesized to promote greater suppression and rumination, resulting in serial mediation pathways from social anxiety through fears of evaluation and acceptance to suppression and rumination.

Chapter 2

Research Question 2. *What are the prospective and reciprocal associations between social anxiety, fear of positive and negative evaluation, and the emotion regulation strategies acceptance, suppression and rumination?*

Hypotheses: At the between person level, adolescents with higher FPE, FNE, and social anxiety were expected to report lower acceptance and higher suppression and rumination. At the within person level, increases in FPE, FNE, and social anxiety were expected to predict subsequent increases in suppression and rumination and decreases in acceptance, with reciprocal associations over time.

Chapter 3

Research Question 3. *How are social anxiety and the emotion regulation strategies acceptance, suppression and rumination related to daily affect in adolescents' natural environments?*

Hypotheses: It was hypothesized that social anxiety would be associated with higher expressive suppression and lower acceptance of both positive and negative emotions, as well as greater rumination throughout the day. Furthermore, it was expected that the effect of social anxiety on positive affect would be explained by stronger suppression and reduced

acceptance of positive emotions, whereas its impact on negative affect would be explained by stronger suppression, lower acceptance of negative emotions, and greater rumination.

Chapter 4

Research Question 4. *How are fears of positive and negative evaluation associated to adolescents' affective responses to positive feedback and the emotion regulation strategies acceptance, suppression and rumination in daily life?*

Hypotheses: It was expected that both social anxiety and FPE would be related to elevated negative affect and reduced positive affect across the day, as well as to fewer experiences of positive feedback. Additionally, FPE and FNE were expected to moderate adolescents' affective reactions to positive feedback, intensifying negative affect and dampening positive affective responses. It was further expected that higher levels of these fears would be linked to greater suppression, lower acceptance, and increased rumination following positive feedback. Finally, emotion regulation of positive and negative emotions was expected to mediate the associations between fears of evaluation and daily affect.

Methods

In **Chapter 1**, data from the first wave of the longitudinal study ($N = 647$) were analyzed cross-sectionally to test the indirect effects of social anxiety on emotion regulation via fears of evaluation. Structural equation modeling was conducted using mean scores as single indicators for their respective latent variables. To assess robustness, a small-scale multiverse analysis examined whether different estimation approaches affected key path coefficients. In **Chapter 2**, data from all three waves ($n_1 = 684$, $n_2 = 255$, $n_3 = 200$) were analyzed using random-intercept cross-lagged panel models (RI-CLPM; Hamaker et al., 2015; Mulder & Hamaker, 2021) to disentangle between- and within-person variance and examine reciprocal effects among fears of evaluation, social anxiety, and emotion regulation over time. Three models were estimated (for FPE, FNE, and social anxiety), each including

acceptance, suppression, and rumination. **Chapters 3 and 4** drew on intensive longitudinal data from the EMA study to capture how social anxiety and fears of evaluation unfold in adolescents' daily lives. In **Chapter 3**, multilevel structural equation modeling (MSEM; Sadikaj et al., 2021) was used to examine within- and between-person links between social anxiety, emotion regulation (acceptance, suppression, rumination), and daily affect. Due to the timing of data collection and the manuscript's expedited submission to a special issue, analyses were conducted with a subsample of adolescents ($n = 47$; $k = 1,998$ observations). Two models tested the indirect effects of social anxiety on daily negative and positive affect through the regulation of corresponding emotions. In **Chapter 4**, the full EMA sample was analyzed ($n = 80$; $k = 3,423$ observations) using the same analytical framework. This study focused on adolescents' emotional and regulatory responses to positive feedback in everyday life, investigating how fears of evaluation shape affective reactions, subsequent emotion regulation, and, in turn, overall daily emotional well-being. The methods used in each paper are listed in Table 1.

Open Science

Both research projects and their corresponding analyses presented in this dissertation were preregistered on the Open Science Framework (OSF) to ensure transparency and reproducibility. The preregistrations can be accessed at <https://osf.io/fgeb3> (**Chapters 1 and 2**) and <https://osf.io/srvj3> (**Chapters 3 and 4**). Data, analysis code, and outputs were made publicly available to the extent permitted by participant consent and data protection agreements. While both studies were largely conducted in accordance with their preregistered plans, some deviations were necessary. Especially regarding the preregistration of the first study, there are some imprecisions in the the specification of the models to be estimated. Additionally, this preregistration included the examination of cognitive reappraisal as an additional emotion regulation strategy in the cross-sectional analyses. Although cognitive

reappraisal is often associated with social anxiety (Dryman & Heimberg, 2018), this variable was excluded from the final model, as no theoretical rationale supported its direct association with fears of evaluation. As such, the final model that was presented in the paper differed slightly in the direction of the effects. Furthermore, the preregistered longitudinal analyses were adjusted due to convergence issues arising from high attrition rates and substantial multicollinearity between the key constructs. Consequently, the longitudinal models (**Chapter 2**) were divided into three separate models, one each for FPE, FNE, and social anxiety, that were later compared using coefficient constraints and likelihood-ratio tests. For the EMA study (**Chapters 3 and 4**), deviations from preregistration were minimal and largely methodological in nature (e.g., model specification or estimator choice). A summary of open-science practices, along with links to preregistrations and open materials, is provided in Table 1.

Statement on the Use of Generative AI

In preparing this thesis, artificial intelligence tools were used solely to support language clarity. ChatGPT (version 5; OpenAI, 2025) and DeepL (neural machine translation system; DeepL, 2025) were employed to proofread text, suggest alternative wording, and assist in identifying grammatical and syntactic issues. These tools were not used to generate new content. All revisions based on their output were evaluated and adapted by the author. Responsibility for the accuracy and interpretation of the content lies entirely with the author.

Chapter	Design & Sample	Analytical Approach	Open Science Practices	Publication Status
1	Cross-sectional analysis of the first wave of the longitudinal study ($N = 647$ adolescents aged 14–17)	Structural Equation Modeling (SEM); small-scale multiverse analysis to test robustness across datasets and estimation methods	Preregistered on OSF (https://osf.io/fgeb3). Analysis scripts and outputs available. Deviations from the protocol: directionality of effects and exclusion of cognitive reappraisal due to lack of theoretical justification	Published in <i>Journal of Clinical Medicine</i> (Special Issue Clinical Updates in Psychology in Children and Adolescents) DOI: 10.3390/jcm11205979
2	Three-wave longitudinal study ($n_1 = 684$, $n_2 = 255$, $n_3 = 200$ adolescents aged 14–18) over 6 months	Random-Intercept Cross-Lagged Panel Models (RI-CLPM; Hamaker et al., 2015)	Preregistered on OSF (https://osf.io/fgeb3). Data, code, and outputs available. Deviations from the protocol: separate models for FPE, FNE, and SA due to high intercorrelations and attrition	Published in <i>Development and Psychopathology</i> DOI: 10.1017/S0954579424001366
3	Subsample of EMA dataset ($n = 47$; $k = 1,998$ observations; adolescents aged 14–18)	Multilevel Structural Equation Modeling (MSEM)	Preregistered on OSF (https://osf.io/srvj3). Data, code, and outputs available. Deviations from the protocol: Minor methodological deviations (e.g., estimator choice, model specification).	Published in <i>Kindheit und Entwicklung</i> (Special Issue Emotion Regulation) DOI: 10.1026/0942-5403/a000492
4	Full EMA sample ($n = 80$; $k = 3,423$ observations; adolescents aged 14–18)	Multilevel Structural Equation Modeling (MSEM)	Preregistered on OSF (https://osf.io/srvj3). Data, code, and outputs available. Deviations from the protocol: Minor methodological deviations (e.g., estimator choice, model specification).	Submitted to <i>Child and Adolescent Psychiatry and Mental Health</i> DOI (Preprint): https://doi.org/10.31234/osf.io/vzma8_v1

Chapter 1

Please Don't Compliment Me! Fear of Positive Evaluation and Emotion Regulation – Implications for Adolescents' Social Anxiety

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Abstract

In recent years, fear of positive evaluation has emerged as one of the key aspects of social anxiety, alongside fear of negative evaluation. Fears of evaluation intensify during adolescence, a time when individuals are expected to navigate new, emotionally challenging situations. The purpose of this study was to examine the associations between social anxiety, fear of positive and negative evaluation, and three emotion regulation strategies relevant to social anxiety, i.e., suppression, acceptance, and rumination. To this end, data were collected from 647 adolescents via an online survey and analyzed using structural equation modeling. We found that fear of negative evaluation was significantly related to rumination, whereas fear of positive evaluation was significantly and negatively related to acceptance. We further found an indirect effect of social anxiety on suppression via fear of positive evaluation and acceptance in a serial mediation and an indirect effect of social anxiety on rumination via fear of negative evaluation. Not only do fears of positive and negative evaluation appear to be distinct constructs, but they are also differentially associated with three emotion regulation strategies pertinent to social anxiety. Fear of evaluation and its associations with emotion regulation deficits might hinder the therapeutic process by acting as a deterrent to positive reinforcement or potentially impeding the development of a successful therapeutic alliance.

Keywords: fear of positive evaluation; fear of negative evaluation; social anxiety; emotion regulation; positivity impairment; adolescence

Theoretical Background

Social anxiety disorder (SAD) is one of the most common anxiety disorders in late adolescence, with prevalent rates ranging from 5% to 10%, and a lifetime prevalence of around 12% (Kessler et al., 2012; Ollendick et al., 2014; Scaini et al., 2016). Often first occurring in childhood or early adolescence, SAD has relatively low remission rates (Bruce et al., 2005), usually persists into adulthood (Spence & Rapee, 2016), and frequently leads to the development of other comorbid disorders, most notably other anxiety, depressive, and substance use disorders (Heimberg & Magee, 2014; Knappe et al., 2011, 2015). Given that adolescence is a developmental period characterized by cognitive maturation, increasing affective reactivity, growing autonomy, and new socialization pressures (Yap et al., 2007), fears of evaluation (e.g., being afraid of being negatively evaluated by others, fear of being teased) appear to intensify during this period, while other fears, such as fears of physical punishment, decrease (Westenberg et al., 2007). These far-reaching changes place strain on the emerging adolescents and require a new set of skills to regulate the emotions that accompany these novel, frequent, and intense emotional challenges (Riediger & Klipker, 2014). Although the increase of evaluation fears at this developmental stage can be regarded as a natural result of socio-cognitive maturation, it may also constitute a risk factor for the development of social anxiety, at both subclinical levels as well as the clinical presentation of SAD (Westenberg et al., 2004). Similarly, the inability to navigate these new emotional challenges in an appropriate and adaptive manner can be seen as an obstacle to successful socio-emotional adjustment, posing additional risks for the development of a variety of psychological problems, including social anxiety (Riediger & Klipker, 2014; Schmitz & Asbrand, 2020; Westenberg et al., 2004).

Fear of Evaluation

Fear of negative evaluation (FNE) has long been considered to be the key aspect of social anxiety (Clark & Wells, 1995; Rapee & Heimberg, 1997). In the DSM-5 and ICD-11, it is listed as a diagnostic criterion of SAD, in that affected individuals are fearful and avoidant of social situations in which they could be observed and evaluated by others (American Psychiatric Association, 2013; World Health Organization, 2022). FNE has consequently been included in multiple theoretical models of social anxiety, such as the cognitive model of social phobia (Clark & Wells, 1995) and the cognitive-behavioral model of SAD (Rapee & Heimberg, 1997). According to these models, socially anxious individuals who find themselves in social or performance situations shift their attention inwards, monitoring the self for any display of stress symptoms or signs of inadequacy, and outwards, searching for possible signs of negative evaluation, while positive cues are either not attended to or misinterpreted (Alden et al., 2008). Stress symptoms, such as elevated heart rate, sweating, or blushing, manifest before and during these situations and, combined with the aforementioned attentional biases, create a vicious cycle, often leading to a steady increase in anxiety levels (APA, 2013; Heimberg & Magee, 2014). As a consequence, affected individuals report impairments in a plethora of life domains, such as work and studies, social relationships, leisure, and family life (Aderka et al., 2012), which, in turn, amplify the symptoms in the long term. These underlying processes stress the importance of cognitive biases in the context of social anxiety and clearly indicate how FNE may lead to dysfunctional affective, cognitive, and behavioral responses to social situations (Fredrick & Luebbe, 2020).

In the past decade, however, researchers have argued that it is fear of evaluation in general, i.e., fear of negative and positive evaluation, that plays a vital role in social anxiety (Weeks, Heimberg, & Rodebaugh, 2008; Weeks, Heimberg, Rodebaugh, et al., 2008). Fear of positive evaluation (FPE), which is defined as “feelings of apprehension about others’ positive evaluations of oneself and distress over these evaluations” (Weeks & Howell, 2014,

p. 233), has been shown to be associated with a number of characteristics of social anxiety, including, but not limited to, submissive behaviors, increased negative and decreased positive affect in social interactions, and discomfort when receiving positive feedback (Weeks et al., 2010; Weeks, Heimberg, Rodebaugh, et al., 2008). This lack of positive affect and positive interactions, also referred to as positivity impairment, has gradually emerged as one of the central features of SAD (Gilboa-Schechtman et al., 2014; Weeks & Howell, 2012; Weeks & Zoccola, 2015). Strikingly, FPE appears to contribute uniquely to social anxiety, above and beyond FNE, suggesting that both types of fear of evaluation, albeit correlated, are distinct constructs and that FPE might be the driving force for the positivity impairment observed in SAD (Fredrick & Luebbe, 2020; Gilbert, 2001; Reichenberger & Blechert, 2018). FPE has also been successfully assessed in adolescent samples, where similar associations with social anxiety, avoidance, and safety-seeking behaviors have been found (Reichenberger & Blechert, 2018).

In order to understand the role of evaluation fears in the context of social anxiety, it is worth considering the evolutionary benefits of these fears. According to the psycho-evolutionary model of SAD (Gilbert, 2001), socially anxious individuals perceive themselves to be placed low in a hierarchically structured social environment. Driven by the attempt to avoid conflict with higher-ranking individuals on the one hand, and a general exclusion from the group, on the other, FNE and FPE are posited to play the role of regulatory forces that reduce the likelihood of such upward or downward movements in the social hierarchy. FNE may serve the function of protection from group exclusion, while FPE may protect against performing “too well” and, as a result, coming into conflict with the higher-ups (Fredrick & Luebbe, 2020). However, when these processes become excessive, they appear to lead to a variety of negative outcomes, contributing to the development and maintenance of social anxiety (Reichenberger et al., 2019; Reichenberger & Blechert, 2018).

Although FPE has shown promise as an approach to social anxiety research that could expand our understanding of its phenomenology, there are still many unanswered questions (Fredrick & Luebbe, 2020). Specifically, little headway has been made in examining the associations between FPE and emotion regulation, and their meaning for social anxiety.

Emotion Regulation

Emotion regulation is defined as “the processes through which individuals influence which emotions they have, when they have them, and how they experience and express them” (Gross, 1998, p. 275). According to this definition, emotion regulation deficits can manifest at different stages of the emotion generative process, with a broad distinction being made between antecedent-focused and response-focused strategies. Antecedent-focused strategies can occur before an emotion has been elicited, for instance, by shifting attention away from or reframing the meaning of a potentially emotional situation (i.e., attentional deployment and cognitive change), whereas response-focused strategies occur after an emotion has been triggered and aim to modulate the experience of said emotion (i.e., response modulation) (Gross, 2015). Dysfunctional emotion regulation constitutes a trans-diagnostic process fundamental to and present in many different mental disorders, including SAD (Aldao et al., 2010; Heimberg et al., 2014). More specifically, social anxiety, at both clinical and subclinical levels, has been linked to the excessive use of various emotion regulation strategies that are generally deemed maladaptive, such as suppression (Dryman & Heimberg, 2018; Jazaieri et al., 2015) and rumination (Brozovich & Heimberg, 2008), accompanied by difficulties in accepting negative emotions (Mennin et al., 2009). Suppression and acceptance are seen as response-focused emotion regulation strategies since they mainly take place after an emotion has been elicited (Hofmann & Kashdan, 2010). Rumination, on the other hand, is characterized by a perseverative focus on mainly negative emotional experiences, their

causes, and potential consequences, thereby reflecting difficulty in redirecting attentional resources away from negative thoughts (Zawadzki, 2015).

First, suppression can be defined as the voluntary inhibition of verbal and behavioral expressions of emotions (Gross, 2015). The often maladaptive nature of emotion suppression lies in the fact that it usually does not achieve the goal for which it is used; on the contrary, negative emotions tend to become more intense when they are suppressed, leading to an increase in the subjective experience of those emotions (Dryman & Heimberg, 2018). In contrast to negative emotions, suppressing positive emotions does indeed dampen the intensity of those emotions and is linked to fewer positive emotions and experiences (Blalock et al., 2016; Farmer & Kashdan, 2012). Given this counterproductive effect, it becomes clear how the excessive use of suppression in the context of social anxiety is strongly related to a variety of negative outcomes, such as lower life satisfaction, dysfunctional beliefs about the nature of emotions, and a general fear of emotional experiences (Spokas et al., 2009; Wirtz et al., 2014). Furthermore, suppression is thought to be related to the general tendency to avoid being in the spotlight because expressions of emotion might attract attention and, consequently, raise the chance of being evaluated by others (Dryman & Heimberg, 2018; Goldin et al., 2014; Jazaieri et al., 2015; Turk et al., 2005).

Second, rumination, which represents an aspect of what is known as repetitive negative thinking in the literature, refers to thoughts that are “repetitive, intrusive, difficult to disengage from, perceived as unproductive, and capturing mental capacity” (Ehring, 2021, p. 441). In the case of social anxiety, these ruminative processes manifest mainly as post-event processing, a phenomenon that refers to the tendency to brood over past social events by selectively recalling negative information and negatively evaluating one’s own performance in a particular social situation (Brozovich & Heimberg, 2008; Fehm et al., 2007). Even in the case of events that include positive feedback, socially anxious individuals have been shown

to focus on and brood over the negative aspects of these events (Brozovich & Heimberg, 2008). This negative interpretation bias has also been linked to attempts to dampen positive emotions that might arise from positive social events. This suggests that as potentially disconfirmatory positive information is presented to socially anxious individuals, the positive emotional response it might elicit is dampened, thus maintaining the initial negative interpretations (Everaert et al., 2020). Findings on differences between socially anxious individuals vs. non-socially anxious controls regarding positive rumination, however, are not that clear; socially anxious individuals appear to focus more on the negative aspects of social events but not less on the positive aspects of them (Zou & Abbott, 2012). Although referred to as post-event processing, ruminative processes may also pertain to future events, in that socially anxious individuals might brood over what they perceive as past social “failures” before entering a new social situation, further exacerbating their anticipatory anxiety (Brozovich & Heimberg, 2013). Ruminative thoughts can ultimately reinforce negative self-images, thus perpetuating the cycle of social anxiety (Penney & Abbott, 2014).

Third, a fundamental regulatory problem in social anxiety lies in an unwillingness to accept negative emotions (Mennin et al., 2007, 2009; Rusch et al., 2012; Spokas et al., 2009). This is in line with findings on experiential avoidance in social anxiety, suggesting that socially anxious individuals are reluctant to face naturally occurring negative affect and try to avoid them through maladaptive strategies, such as attempts to conceal the emotional experiences (Dryman & Heimberg, 2018; Kashdan et al., 2013). Regarding positive emotions, socially anxious individuals have been theorized to have difficulties accepting them as well. For example, a general tendency to dampen positive emotions instead of accepting them as they are has been linked to social anxiety (McEvoy et al., 2018). In addition, as mentioned above, individuals that have difficulty rectifying negative interpretations when presented with positive information tend to respond to positive emotions

by attenuating their intensity and duration (Everaert et al., 2020). It thus becomes clear how difficulties with accepting emotional experiences have been linked to rumination (Nolen-Hoeksema et al., 2013): Given how negative interpretation biases place the focus on the negative aspects of a situation, these interpretations are difficult to re-adjust when positive information is presented, and positive emotions that might be triggered in these situations are immediately dampened.

Although most of the aforementioned studies have been conducted with adult samples, the majority of these findings have also been replicated with children and adolescents. In fact, associations between adolescents' social anxiety and acceptance (Mathews et al., 2014; Schneider et al., 2016; Young et al., 2019), suppression (Gómez-Ortiz 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) have been found in both clinical and community youth samples.

Do Evaluation Fears Mediate the Link between Social Anxiety and Emotion Regulation?

In sum, FPE appears to be strongly and uniquely associated with social anxiety, often above and beyond FNE (Fredrick & Luebbe, 2020; Reichenberger & Blechert, 2018). Most notably, it is thought to drive the observed positivity impairment in the disorder, in that it is closely connected with low positive affect, disqualification of positive social events, and less perceived accuracy of positive feedback, whereas FNE appears to be more specifically related to excessive negativity (Kashdan & Collins, 2010; Weeks et al., 2010). Furthermore, socially anxious individuals seem to be less accepting of their emotions (Spokas et al., 2009), suppress them more often (Goldin et al., 2014), and spend more time ruminating over past or future events (Brozovich & Heimberg, 2013; Brozovich & Heimberg, 2008). It is thought that suppression might occur out of fear of being in the spotlight and consequently

evaluated; ruminative processes place the focus on past social situations and perceived negative evaluations of the self, whereas non-acceptance might play a role in the disqualification of positive social events and the concomitant positive emotions as well as in the avoidance of negative emotional experiences. These regulatory difficulties appear to contribute to this positivity impairment as well, since these frequently employed strategies intensify negative emotions and dampen positive emotions, increase negative cognitions, and are generally associated with less positive events in everyday life (Blanco & Joormann, 2017; Dryman & Heimberg, 2018; Farmer & Kashdan, 2012; Kashdan & Steger, 2006).

That said, to our knowledge, no study has yet investigated the associations between fear of evaluation (i.e., both FNE and FPE) and the three emotion regulation strategies (i.e., suppression, rumination, and acceptance) in the context of social anxiety in adolescents. Moreover, it has not been examined, so far, whether evaluation fears explain the associations between social anxiety and emotion regulation deficits. As mentioned above, FNE and FPE are assumed to play the role of regulatory forces with respect to upward and downward movements in the social hierarchy (Fredrick & Luebbe, 2020; Gilbert, 2001) and, by proxy, emotional–expressive behavior. Therefore, it is plausible that the two types of fear of evaluation will mediate the link between social anxiety and the various emotion regulation strategies among adolescents.

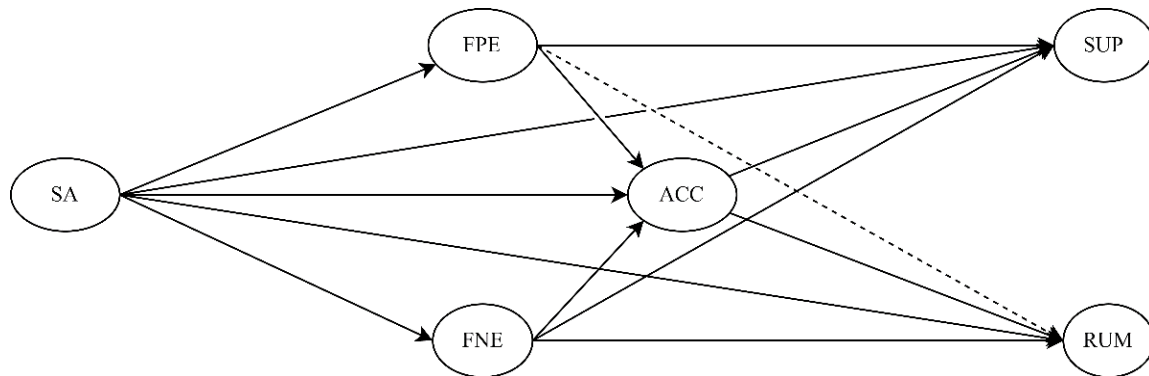
The Current Study

The goal of this study was to examine the associations between the fears of negative and positive evaluation (i.e., FNE and FPE) and three emotion regulation strategies (i.e., suppression, rumination, and acceptance) and to investigate their role in social anxiety in adolescents. When examining the associations between fears of evaluation and emotion regulation strategies, we consider it essential to investigate them simultaneously, that is, to control for one when examining the other, in order to test their unique contributions and

avoid associations that may result from nonspecific evaluative fears. First, we expected social anxiety to be positively associated with both FPE and FNE (H1). Furthermore, we assumed that FNE would be positively associated with suppression and rumination and negatively associated with acceptance after controlling for FPE (H2). With respect to FPE, we expected it to be associated with acceptance and suppression but not rumination after controlling for FNE (H3). We further hypothesized that the two types of fear of evaluation would be the mechanisms that mediate the links between social anxiety and emotion regulation strategies differentially. More specifically, we expected FNE to mediate the association between social anxiety and suppression as well as rumination (H4a and H4b) and FPE to mediate the association between social anxiety and suppression (H5) but not rumination. Additionally, we predicted that both FNE and FPE will mediate the association between social anxiety and acceptance (H6). Given that difficulties in accepting negative emotions in the context of social anxiety can lead to attempts to hide emotional experiences, we also assumed that acceptance will predict suppression in our model (H7). Since rumination is also negatively associated with acceptance, we hypothesized that acceptance would also be linked to rumination (H8). With these specifications, we expected the indirect effects of social anxiety on suppression and rumination to be mediated by FPE, FNE, and acceptance in the form of a double mediation (H9). We controlled for adolescents' age, gender, and depressive symptoms in all analyses. Figure 1 illustrates our hypothesized model.

Figure 1

Conceptual Model of Fears of Evaluation as Mediators between Social Anxiety and Emotion Regulation



Note. SA = social anxiety; FPE = fear of positive evaluation, FNE = fear of negative evaluation, SUP = suppression, ACC = acceptance; RUM = rumination. Control variables are not displayed for the sake of clarity. The dotted line represents the control path from FPE to RUM, assumed to be non-significant.

Materials and Methods

Participants

A convenience sample was pulled from the general German-speaking adolescent population (14–17 years) in Austria and Germany. Participants were mainly recruited via advertisements on social media, such as Facebook and Instagram. In total, 1,049 participants started the survey, of whom 724 reached the last page. Participants were informed on the first page of the questionnaire that their data would not be used for the analysis if they stopped answering the questionnaire at any point. Therefore, only data from participants who reached the last page were utilized for data analysis. In addition, at the end of each page of the questionnaire, participants were prompted to answer all questions if any response was missing. If they chose to intentionally leave a question unanswered, they had the option to check a box and continue to the next page. This resulted in a final data set with virtually no

missing data, except for one respondent who left an item unanswered (FPE4), evidently deliberately.

Of the 325 participants who did not reach the last page, 102 (31.4%) answered the sociodemographic questions and then dropped out afterwards. Strikingly, 77 participants (23.7%) quit the survey without completing the next page, where we had placed a CAPTCHA to avoid automated responses, which has recently emerged as a serious problem in online surveys with monetary incentives (Storozuk et al., 2020). The remaining 146 participants (44.9%) dropped out during the remainder of the survey. We then conducted an attrition analysis to examine potential differences between those who completed the survey and those who did not. This revealed no significant differences in terms of sociodemographic variables (gender, country of residence, native language, school type, school level, psychotherapeutic treatment, lockdown, quarantine). These analyses have been made available online and can be retrieved from OSF (see the data availability statement).

After completing internal testing, we excluded the quickest and slowest 5% of the respondents (10% in total, i.e., 72 participants) from the final dataset. We deemed these participants to be non-serious respondents, given that they completed some of the questionnaire pages in as quickly as 20 s or as slowly as 10 min per page. Furthermore, we examined univariate outliers using boxplots and screened these participants' response behavior for peculiar responses, which did not result in any exclusions. Additionally, we calculated Mahalanobis distances using our variables of interest to detect possible multivariate outliers, which, after examining the chi-squared distribution of the distances at $p < 0.001$, resulted in the exclusion of four additional participants (Tabachnik & Fidell, 2013). Lastly, we found one participant whom we determined to be a non-serious responder, given that their responses were consistently at opposite extremes on unidimensional, straightforward coded scales (e.g., 0, 9, 0, 9, 0, 9, etc. on the scale of FPE). Thus, the final sample

consisted of 647 participants (85.6% female, 10% male, 4.3% other) with a mean age of 16.21 ($SD = 0.95$) years. Further sociodemographic characteristics are shown in Table 1.

Table 1

Sociodemographic variables

Variable	<i>n</i>	%
<i>Gender</i>		
Male	65	10.0
Female	554	85.6
Other	28	4.3
<i>Residency</i>		
Austria	251	38.8
Germany	394	60.9
Italy	2	.3
<i>First Language</i>		
German	579	89.5
Other	68	10.5
<i>Current Household (Living Together)</i>		
Both Parents	434	67.1
Mother	141	21.8
Father	22	3.4
Other	50	7.7
<i>Current Education</i>		
Middle School	4	.6
High School	547	84.8
Vocational School	31	4.8
Special Needs School	6	.9
Other	57	8.8
<i>Psychotherapy</i>		
Yes	165	25.5
No	482	74.5
<i>Physical Disability</i>		
Yes	61	9.4
No	586	90.6

Note. Due to rounding inaccuracies, the percentages of male, female, and other gendered individuals add up to 99.9%.

Procedures

This study is part of a larger longitudinal project that aims to examine the prospective associations and underlying mechanisms of fear of evaluation, emotion regulation, and social anxiety in adolescents. This study was preregistered on 10 March 2022. Although the preregistration was finalized after data collection had begun, no data had been screened or

reviewed yet. The study's preregistration can be retrieved from OSF at osf.io/fgeb3 (accessed on 10.10.2022).

Only data from the first wave of surveys were used for this report, which was collected by means of an anonymous online survey on the SoSci Survey platform (Leiner, 2019) from 15 February 2022 to 25 June 2022. In order to increase the participation rate, participants had the opportunity to take part in a draw for 10 vouchers worth 10 euros each for an online store of their choice (e.g., video games, fair trade stores). Participation was voluntary and could be terminated at any time by closing the browser window. The adolescents' informed consent was required to start the survey.

Measures

Social Anxiety

Social anxiety was measured using the Social Phobia Inventory (SPIN; Connor et al., 2000; Von Consbruch et al., 2016). The SPIN consists of 17 items related to three aspects of social anxiety, i.e., 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 two weeks. Because the discriminatory power of some items (e.g., "I avoid going to parties") could potentially be affected by the COVID-19 pandemic, we added a disclaimer as part of the instructions and urged participants to think of periods when the restrictions were less severe and changed the time reference from two weeks to three months. This amendment was approved by the publisher of the instrument. The statements are rated on a scale ranging from 0 = *not at all* to 4 = *extremely*, with a maximum sum score of 68 (higher scores reflect greater social anxiety). However, mean scores were used for our main analysis. This scale showed acceptable internal consistency (Cronbach's $\alpha = 0.93$).

Fear of Evaluation

FPE was assessed using the Fear of Positive Evaluation Scale (FPES; Schwarz et al., 2016; Weeks, Heimberg, & Rodebaugh, 2008). The FPES consists of ten statements related to fear and discomfort when receiving positive attention (e.g., “I feel uneasy when I receive praise from authority figures”). These are rated based on a 10-point rating scale, from 0 = *not at all true* to 9 = *very true*, with higher scores indicating a higher fear of positive evaluation. Since two of these items displayed insufficient discriminatory power (<0.30) in previous validation studies, they were excluded from the analysis, meaning the final score was comprised of eight items, all loading on a single factor. The internal consistency of the scale was acceptable, with Cronbach’s $\alpha = 0.87$.

FNE was measured with the Brief Fear of Negative Evaluation Scale (BFNE; Leary, 1983; Reichenberger et al., 2016). The BFNE consists of twelve items related to concerns about being criticized or found inadequate by others (e.g., “I am afraid that others will not approve of me”). They are rated on a 5-point rating scale from 1 = *not at all characteristic of me* to 5 = *absolutely characteristic of me*, with higher scores reflecting higher fear of negative evaluation. Similar to the FPES, these items load on a single factor and displayed acceptable internal consistency (Cronbach’s $\alpha = .95$).

Emotion Regulation

Suppression and acceptance were assessed with the Affective Style Questionnaire–Youth (ASQ–Y Graser et al., 2019; Hofmann & Kashdan, 2010). This questionnaire consists of 20 items, 8 of which measure suppression/concealing (e.g., “I often suppress my emotional reactions to things”) and 5 of which measure acceptance/tolerating (e.g., “It’s ok to feel negative emotions at times”). The statements refer to participants’ habitual responses to emotional experiences and are rated on a 5-point rating scale, ranging from 0 = *not true of me at all* to 4 = *extremely true of me*. Higher scores reflect higher suppression and higher

acceptance, respectively. Both scales had satisfactory internal consistencies (Cronbach's $\alpha = 0.84$ for suppression and $\alpha = 0.84$ for acceptance).

Rumination was assessed with the Perseverative Thinking Questionnaire (PTQ; Ehring et al., 2011). The PTQ consists of 15 items distributed across three factors, i.e., 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 are asked to reflect on how they typically think about negative experiences and problems and to rate the statements on a 5-point rating scale, with 0 = *never* and 4 = *almost always*. Higher scores represent higher repetitive negative thinking. The three subscales displayed acceptable internal consistency (core characteristics of repetitive negative thinking: $\alpha = 0.90$; unproductiveness of repetitive negative thinking: $\alpha = 0.76$; repetitive negative thinking impairing mental capacity $\alpha = 0.83$). The overall scale, which was used in the present analysis, as recommended by the scale's creators, and hereinafter consistently denoted as rumination, had an internal consistency of $\alpha = 0.93$ and, thereby, acceptable reliability.

Control Variables

The depression module of the Patient Health Questionnaire (PHQ-9; Gräfe et al., 2004; Kroenke et al., 2001) was used to measure depressive symptoms to be included as a covariate in the analyses. Depressive symptoms are likely to be a confounding factor in our analyses because prior research has found strong associations between depressive symptoms and social anxiety (Epkins & Heckler, 2011) as well as the three emotion regulation strategies examined in this study (Aldao et al., 2010). Participants were thereby asked to report how often they felt impaired by a series of depressive symptoms (e.g., "Little interest or pleasure

in your activities”) in the past two weeks. The scale is comprised of nine items that are rated on a 4-point rating scale, from 0 = *not at all* to 3 = *almost every day*. Higher scores reflect higher depressive symptoms. The scale displayed an acceptable internal consistency of $\alpha = 0.87$.

Additionally, we controlled for adolescents’ age and gender, given that previous studies have reported age and gender effects in terms of social anxiety (Ranta, Kaltiala-Heino, Koivisto, et al., 2007) and emotion regulation (Sanchis-Sanchis et al., 2020). Age was assessed as a continuous variable via free text-input. For gender, we created two dummy-coded variables (0 = female, 1 = male, 2 = other gender; reference category = female).

Statistical Analysis

We used IBM SPSS 27 Statistics for Windows Version 27 (IBM Corp., 2021) for descriptive statistics, outlier detection, reliability analyses, and assumption testing. For confirmatory factor analyses and structural equation modeling, we used Mplus 8.5 (Muthén & Muthén, 2017). We conducted confirmatory factor analyses with our main questionnaires, i.e., SPIN, FPES, BFNE, ASQ–Y, PTQ, and PHQ-9, to examine factor loadings and calculate composite reliabilities. Following the suggestions of Maydeu-Olivares (2017), we estimated these models using mean-variance-adjusted maximum likelihood estimation (MLMV), which has been shown to display accurate standard errors and outperform traditional maximum likelihood estimation in terms of goodness-of-fit testing in the presence of a few pieces of missing data. For the structural equation model, we used bootstrapping and requested bias-corrected confidence intervals. Model fit was assessed using the cut-offs for CFI, TLI, RMSEA, and SRMR, as provided by Hu and Bentler (1999), aiming for at least acceptable values for all fit indices (CFI/TLI > 0.90; RMSEA/SRMR < 0.08).

Results

Descriptive Statistics

Means, standard deviations, and bivariate correlations of the study variables are shown in Table 2. All analyses were calculated using mean scores across all measures and will hereinafter be reported accordingly. Bivariate correlations revealed that our study variables were correlated in the expected direction, with both fears of evaluation exhibiting positive associations with suppression and rumination, and negative links to acceptance. Moreover, social anxiety was associated with both fears of evaluation and all emotion regulation strategies. An additional set of multiple linear regressions were performed to test for multivariate normality, homoscedasticity, linearity, residual independence, and multicollinearity. As is common in psychopathological measures with community or subclinical samples, we found that some of our variables were not normally distributed. We used mean-variance-adjusted maximum likelihood estimation (MLMV) and bootstrapping for all of our main analyses, which are both viable options for dealing with non-normality within SEM (Hoyle, 2012; Lai, 2018). Our analyses revealed no other violations of the statistical requirements. These analyses have been made available online and can be retrieved from OSF (see the data availability statement).

Table 2

Means, Standard Deviations, and Correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. SA	1.99	0.87	-					
2. FNE	2.73	0.92	.664**	-				
3. FPE	3.98	2.08	.698**	.496**	-			
4. RUM	2.64	0.70	.561**	.571**	.449**	-		
5. SUP	3.49	0.79	.231**	.192**	.264**	.254**	-	
6. ACC	3.21	0.88	-.389**	-.250**	-.409**	-.298**	-.471**	-
7. DEP	1.53	0.71	.611**	.467**	.475**	.673**	.322**	-.404**

Notes. *N* = 647. **p* < .05. ***p* < .01; SA = social anxiety, FNE = fear of negative evaluation,

FPE = fear of positive evaluation, RUM = rumination, SUP = suppression, ACC = acceptance, DEP = depression.

Measurement Model

In the first step of our analysis, we conducted CFAs with all key measures of this study to examine factor loadings and composite reliabilities. For this purpose, we used the fixed factor method to estimate composite reliability (McDonald's Omega), which is indicated over Cronbach's alpha when dealing with tau-congeneric measurement models (Trizano-Hermosilla & Alvarado, 2016). All CFAs yielded acceptable model fits and reliability coefficients (see Table 3). Second, we calculated the means and variances of the study variables. Finally, we used the mean scores of the observed variables as single indicators of their respective latent variables, fixing factor loadings at one and error variances at $\delta x = \text{VAR}(X) * (1 - \omega)$ to control for measurement error (Brown, 2006, p. 139; Hayduk & Littvay, 2012).

Table 3

Confirmatory Factor Analyses: Model Fit Indices and Composite Reliabilities

Questionnaire	RMSEA	CFI	TLI	SRMR	McDonald's ω
SPIN	.074 [.067, .080]	.920	.905	.050	.929
FPES	.066 [.050, .083]	.971	.955	.030	.868
BFNE	.070 [.060, .079]	.957	.944	.032	.945
ASQ-Y: Acceptance					.835
ASQ-Y: Suppression	.068 [.060, .076]	.922	.902	.063	.833
PTQ	.066 [.059, .074]	.931	.917	.043	.922
PHQ-9	.073 [.059, .086]	.953	.937	.036	.871

Notes. FPES = Fear of Positive Evaluation Scale; BFNE = Brief Fear of Negative Evaluation;

ASQ-Y = Affective Style Questionnaire; PTQ = Perseverative Negative Thinking; PHQ-9 =

Patient Health Questionnaire. One Confirmatory Factor Analysis was conducted for both

ASQ-Y scales.

Structural Model

For our structural equation model, we conducted the analysis using bootstrapping with 5000 samples and examined the indirect effects using bias-corrected 95% confidence intervals. In terms of the structural relationships, we first regressed FPE and FNE on social

anxiety. We then regressed the three emotion regulation strategies, i.e., acceptance, suppression, and rumination, on social anxiety and both fears of evaluation. This allowed us to examine the effect of each type of fear of evaluation on the three emotion regulation strategies while controlling for the other. We also regressed rumination and suppression on acceptance. Finally, we specified the indirect effects of social anxiety on all three emotion regulation strategies via FPE and FNE. FPE and FNE were additionally regressed on gender and age, while all emotion regulation variables were regressed on gender, age, and depression. The model fit was acceptable (CFI = 0.994, TLI = 0.972, RMSEA = 0.045 [0.020, 0.071], SRMR = 0.034).

Regarding our hypotheses, we found that social anxiety was positively associated with FNE ($\beta = 0.709, p < 0.001$) and FPE ($\beta = 0.779, p < 0.001$). In addition, FNE was positively associated with rumination ($\beta = 0.330, p < 0.001$) but not with acceptance or suppression. FPE was negatively associated with acceptance ($\beta = -0.339, p < 0.001$) but not with suppression or rumination. Acceptance was negatively linked to suppression ($\beta = -0.502, p < 0.001$), as was social anxiety ($\beta = -0.234, p = 0.018$). All direct effects are displayed in Table 4.

Table 4*Direct effects of the structural equation model*

Direct Effects	<i>b</i>	BC 95% CI	β	BC 95% CI	<i>p</i>	<i>R</i> ²
<i>Fear of Positive Evaluation</i>						.608
SA	1.786	[1.655, 1.906]	0.779	[0.732, 0.817]	<.001	
Gender (F vs. M)	0.100	[-0.244, 0.468]	0.015	[-0.037, 0.070]	.580	
Gender (F vs. O)	-0.016	[-0.512, 0.445]	-0.002	[-0.052, 0.046]	.948	
Age	0.082	[-0.040, 0.205]	0.039	[-0.019, 0.097]	.184	
<i>Fear of Negative Evaluation</i>						.508
SA	0.732	[0.676, 0.794]	0.709	[0.667, 0.749]	<.001	
Gender (F vs. M)	-0.128	[-0.324, 0.060]	-0.043	[-0.108, 0.021]	.193	
Gender (F vs. O)	-0.222	[-0.436, -0.001]	-0.051	[-0.099, 0.000]	.048	
Age	0.019	[-0.035, 0.072]	0.021	[-0.038, 0.077]	.479	
<i>Acceptance</i>						.303
SA	-0.014	[-0.210, 0.168]	-0.015	[-0.220, 0.180]	.880	
FPE	-0.138	[-0.199, -0.073]	-0.339	[-0.490, -0.176]	<.001	
FNE	0.063	[-0.040, 0.170]	0.070	[-0.044, 0.188]	.243	
Depression	-0.373	[-0.510, -0.234]	-0.315	[-0.429, -0.197]	<.001	
Gender (F vs. M)	-0.101	[-0.298, 0.091]	-0.037	[-0.111, 0.034]	.309	
Gender (F vs. O)	-0.180	[-0.450, 0.122]	-0.045	[-0.114, 0.030]	.216	
Age	0.032	[-0.033, 0.098]	0.038	[-0.038, 0.116]	.331	
<i>Suppression</i>						.346
SA	-0.198	[-0.366, -0.031]	-0.234	[-0.429, -0.038]	.018	
FPE	0.035	[-0.022, 0.095]	0.096	[-0.060, 0.258]	.239	
FNE	0.071	[-0.030, 0.172]	0.087	[-0.037, 0.210]	.166	
Acceptance	-0.454	[-0.549, -0.359]	-0.502	[-0.599, -0.402]	<.001	
Depression	0.211	[0.076, 0.347]	0.197	[0.071, 0.325]	.002	
Gender (F vs. M)	-0.084	[-0.270, 0.107]	-0.034	[-0.113, 0.044]	.379	
Gender (F vs. O)	0.142	[-0.126, 0.392]	0.040	[-0.034, 0.110]	.280	
Age	-0.025	[-0.078, 0.026]	-0.033	[-0.101, 0.034]	.336	
<i>Rumination</i>						.634
SA	-0.065	[-0.177, 0.051]	-0.082	[-0.221, 0.064]	.259	
FPE	0.023	[-0.017, 0.064]	0.066	[-0.049, 0.185]	.268	
FNE	0.254	[0.186, 0.321]	0.330	[0.242, 0.417]	<.001	
Acceptance	0.034	[-0.034, 0.105]	0.040	[-0.039, 0.122]	.331	
Depression	0.629	[0.528, 0.726]	0.623	[0.531, 0.706]	<.001	
Gender (F vs. M)	-0.047	[-0.182, 0.080]	-0.021	[-0.080, 0.034]	.481	
Gender (F vs. O)	0.016	[-0.193, 0.236]	0.005	[-0.055, 0.068]	.882	
Age	0.036	[-0.002, 0.076]	0.050	[-0.003, 0.107]	.079	

Notes. *b* (SE) = unstandardized coefficient and standard error, β (SE) = standardized coefficient and standard error, SA = social anxiety, FPE = fear of positive evaluation, FNE = fear of negative evaluation, SUP = suppression, ACC = acceptance, RUM = rumination, DEP = depressive symptoms. Significant values are in bold.

Concerning our mediation hypotheses, we found significant indirect effects of social anxiety on acceptance via FPE (single mediation; $\beta = -0.264 [-0.387, -0.138], p < 0.001$) and of social anxiety on suppression via the serial mediators FPE and acceptance (double mediation; $\beta = 0.132 [0.069, 0.206], p < 0.001$). Additionally, FNE mediated the link between social anxiety and rumination ($\beta = 0.234 [0.170, 0.297], p < 0.001$). All indirect effects are reported in Table 5.

With respect to the control variables, other gender (vs. female gender) was negatively associated with FNE ($\beta = -0.051, p = 0.041$). We found no other associations between gender or age and any of the study variables. Depressive symptoms were positively related to suppression ($\beta = 0.197, p < 0.001$) and rumination ($\beta = 0.623, p < 0.001$), and negatively related to acceptance ($\beta = -0.315, p < 0.001$).

Table 5*Indirect Effects of the Structural Equation Model*

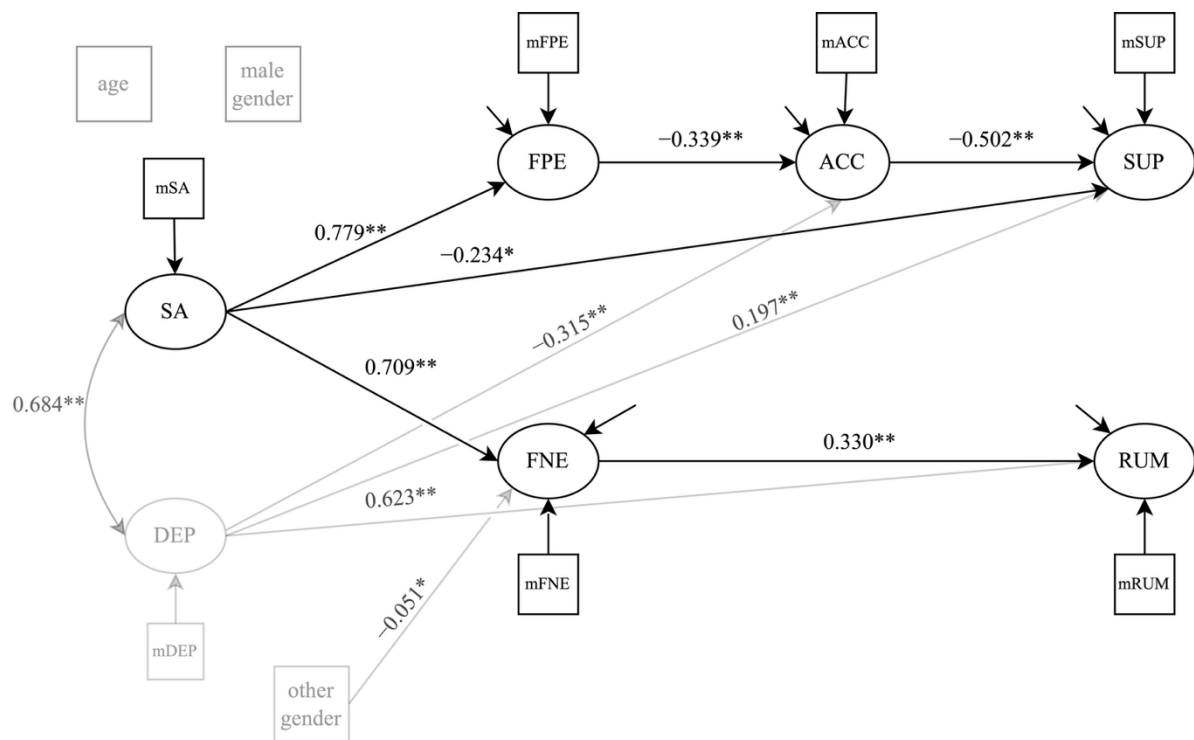
Total and Indirect Effects	<i>b</i>	BC 95% CI	β	BC 95% CI	<i>p</i>
<i>Acceptance</i>					
Total Effect	-0.214	[-0.323, -0.100]	-0.230	[-0.345, -0.107]	<.000
Total Indirect Effect	-0.200	[-0.344, -0.054]	-0.214	[-0.370, -0.058]	.006
1. SA → FPE → ACC	-0.246	[-0.361, -0.130]	-0.264	[-0.387, -0.138]	<.000
2. SA → FNE → ACC	0.046	[-0.029, 0.125]	0.050	[-0.032, 0.135]	.245
<i>Suppression</i>					
Total Effect	0.015	[-0.101, 0.126]	0.018	[-0.121, 0.149]	.798
Total Indirect Effect	0.212	[0.079, 0.346]	0.252	[0.095, 0.409]	.002
1. SA → FPE → SUP	0.063	[-0.038, 0.171]	0.075	[-0.046, 0.202]	.241
2. SA → FNE → SUP	0.052	[-0.021, 0.127]	0.062	[-0.026, 0.151]	.168
3. SA → ACC → SUP	0.007	[-0.077, 0.097]	0.008	[-0.091, 0.114]	.881
4. SA → FPE → ACC → SUP	0.112	[0.058, 0.176]	0.132	[0.069, 0.206]	<.000
5. SA → FNE → ACC → SUP	-0.021	[-0.059, 0.013]	-0.025	[-0.070, 0.014]	.248
<i>Rumination</i>					
Total Effect	0.155	[0.082, 0.226]	0.194	[0.102, 0.284]	<.000
Total Indirect	0.220	[0.133, 0.305]	0.276	[0.166, 0.379]	<.000
1. SA → FPE → RUM	0.041	[-0.030, 0.115]	0.052	[-0.037, 0.145]	.269
2. SA → FNE → RUM	0.186	[0.134, 0.239]	0.234	[0.170, 0.297]	<.000
3. SA → ACC → RUM	0.000	[-0.015, 0.006]	-0.001	[-0.019, 0.008]	.917
4. SA → FPE → ACC → RUM	-0.008	[-0.030, 0.007]	-0.011	[-0.038, 0.009]	.360
5. SA → FNE → ACC → RUM	0.002	[-0.001, 0.011]	0.002	[-0.001, 0.014]	.532

Notes. *b* = unstandardized coefficient and standard error, β (SE) = standardized coefficient and standard error, SA = social anxiety, FPE = fear of positive evaluation, FNE = fear of negative evaluation, SUP = suppression, ACC = acceptance, RUM = rumination, DEP = depressive symptoms. Significant values are in bold.

The final model was able to explain 30.3% of the variance of acceptance, 34.6% of the variance of suppression, and 63.4% of the variance of rumination. For FPE and FNE, 60.8% and 50.8% of the variance could be explained, respectively. When depressive symptoms were excluded from the model, 24.5% of the variance of acceptance, 32.6% of the variance of suppression, and 44.4% of the variance of rumination could be explained. The final model, with all significant path coefficients, is depicted in Figure 2.

Figure 2

Structural Equation Model with Standardized Path Coefficients.



Notes. Control variables are displayed in grey. Non-significant paths are not shown. * $p < .05$; ** $p < .01$. SA = social anxiety; FPE = fear of positive evaluation, FNE = fear of negative evaluation, SUP = suppression, ACC = acceptance; RUM = rumination; DEP = depressive symptoms.

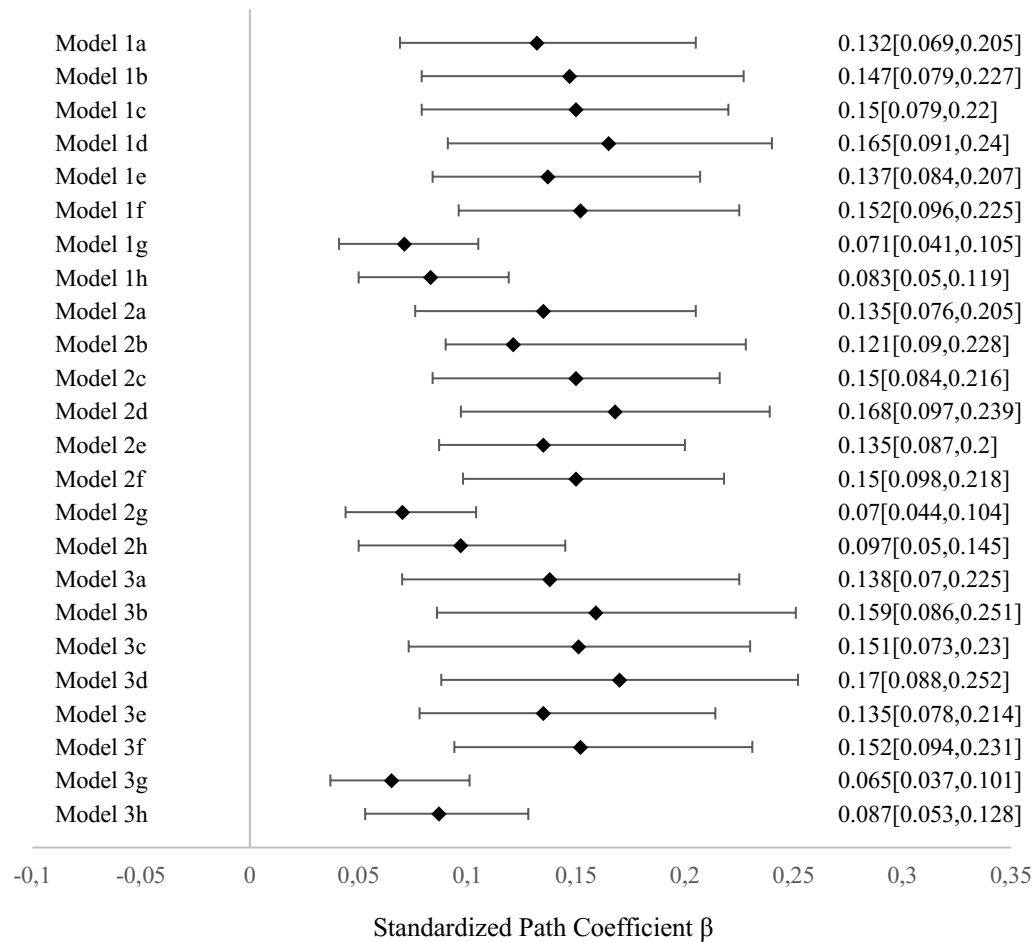
Multiverse Analyses

Following the recommendations of Simmons and colleagues (2011) on p -hacking and the considerations of Steegen and colleagues (2016) on the concept of multiverse analyses, we calculated a set of additional models to ensure full transparency of our analyses and to test the robustness of our results. For this purpose, we re-computed a number of models using (1) the dataset that we utilized for our main analysis, (2) the full dataset without excluding any cases, and (3) a dataset that excluded all participants who completed the questionnaire in less than 10 min. With each of these datasets, we specified eight models: two models with a single indicator, with and without covariates (Models a and b), two models with all items as

indicators, with and without covariates (Models c and d), two models with the five best indicators, with and without covariates (Models e and f), and two models with manifest variables, with and without covariates (Models g and h). This resulted in 24 models in total, ranging from Model 1a to Model 3h. Across all models, these supplementary analyses yielded no substantial deviations with respect to the results of our main hypotheses. Minor deviations from our main model were the following: First, the direct effect of social anxiety on suppression could not be found consistently across all additional models (see Figure S1). Second, social anxiety had a direct effect on rumination when depressive symptoms were omitted. Third, the control variables gender and age had significant effects on some of the endogenous variables in some models, albeit quite weakly. All models except the models that had all items as indicators (models likely to be underpowered) yielded acceptable model fits. Taken together, these additional analyses support the robustness of our findings and the viability of our hypotheses. Exemplarily, a coefficient plot for the indirect effects of the double mediation ($SA \rightarrow FPE \rightarrow ACC \rightarrow SUP$) across all models is displayed in Figure 3. Full results of the complementary analyses and coefficient plots for the other significant indirect effects in the model can be found in the electronic supplement (see Figures S2 and S3).

Figure 3

Coefficient Plot Displaying Standardized Coefficients of Indirect Paths from all Calculated Models. Indirect effect shown: Social anxiety → FPE → acceptance → suppression.



Discussion

FPE has recently emerged alongside FNE as a core cognitive component of social anxiety. It is thought to be one of the driving forces behind the positivity impairment often experienced by socially anxious individuals, whereas FNE is associated with an excessive amount of negativity, for example, in the form of negative and repetitive automatic thoughts (Weeks & Howell, 2014). Given that social anxiety is associated with various deficits in emotion regulation, the purpose of this study was to examine the relationships between both types of fear of evaluation and three emotion regulation strategies, i.e., acceptance,

suppression, and rumination, and to assess their potential mediating role in the established links between social anxiety and emotion dysregulation in adolescents.

The analyses provided support for some, but not all, of our hypotheses. With respect to our first hypothesis, we found that after controlling for the unique contribution of social anxiety, the two types of fear of evaluation were associated with different emotion regulation strategies. Consistent with our expectations, FNE was associated with rumination. However, we did not find an association between FNE and either acceptance or suppression.

Conversely, we were able to demonstrate an association between FPE and acceptance but not with suppression or rumination. Interestingly, social anxiety was associated with acceptance and rumination only in bivariate correlations but not in our higher-order correlational model (i.e., when the evaluation fears were considered simultaneously). In contrast, FPE and FNE appeared to be strongly associated with these two variables, above and beyond social anxiety. These initial findings already suggest that these two types of fear of evaluation are not only distinct constructs, as the extant literature suggests (Weeks & Howell, 2012), but also have different implications for the way affected individuals manage their emotions.

While the bivariate correlations revealed a positive association between social anxiety and suppression, social anxiety was *negatively* associated with suppression in the final model. One explanation of this (at first sight) counterintuitive finding may be that social anxiety acts as a suppressor variable in this model, which requires further investigation. After examining the bivariate correlations of all our study variables, we found that social anxiety was strongly correlated with rumination, fears of evaluation, depression, and acceptance (see Table 2), whereas it was only moderately correlated with suppression. This could be the reason why social anxiety seems to act as a suppressor variable. We tested this by conducting hierarchical regression analyses in which suppression was the dependent variable and FPE, FNE, social anxiety, and depression were the independent variables. We found that the inclusion of social

anxiety in the last step of the model indeed led to an increase in the standardized regression coefficients of FPE and FNE. Since suppression effects can be considered a function of multicollinearity (Akinwande et al., 2015), we re-examined the tolerance and variance inflation factors to test whether the inclusion of social anxiety in the model was justifiable. We found that, in fact, neither tolerance nor VIF of social anxiety exceeded the commonly used thresholds, even the more conservative ones (Akinwande et al., 2015) (Tolerance > 0.25, VIF < 4). We also computed a model without social anxiety as a predictor and examined the effects of FPE and FNE on acceptance, suppression, and rumination (see Tables S1 and S2). We found that the coefficients remained significant and were not inflated compared to the main model and, therefore, decided to include social anxiety in the final model.

That said, theoretical considerations could also explain this particular result. Watson et al. (2013) and Paulhus et al. (2004) have demonstrated that negative suppressor variables can indeed sometimes be theoretically relevant and should be carefully examined. In our models, we observed that the direct paths of social anxiety on suppression were either significant and negative or insignificant in many of our models. This would suggest that, if fears of evaluation and depressive symptoms are controlled for, social anxiety may no longer be significantly associated with suppression or may even be negatively associated with it. Although this finding appears counterintuitive, there are some studies supporting this notion. Firstly, Hofmann and colleagues (Hofmann, 2014), when validating their proposed scale to assess interpersonal emotion regulation, found that social anxiety was, in fact, positively correlated with most of the subscales of their instrument. For instance, individuals who reported fears of criticism and embarrassment, among other social anxiety-related measures, also appeared to endorse turning to others when they had negative emotions (example item: “When I feel sad, I seek out others for consolation”). In addition, Jose and colleagues (2012) were able to demonstrate in a community sample of adolescents that social anxiety could

predict co-rumination, which is defined as a tendency to extensively discuss personal problems within dyadic relationships. Although the association between social anxiety and suppression is very well established in the literature, these findings indicate that socially anxious individuals may tend to express and talk more about their emotions as long as they are not in an unfamiliar social situation in which fears of evaluation, positive or negative, take effect. On this note, given that the measure that we used in this study reflects a general tendency to suppress emotional reactions regardless of the context in which they are elicited, we consider it imperative to differentiate between various social situations in future studies. This would allow for conclusions to be drawn about the situations in which socially anxious individuals are more likely to suppress their emotions.

Regarding our mediation hypotheses, we found an indirect effect of social anxiety on acceptance via FPE but not FNE and an indirect effect of social anxiety on rumination via FNE but not FPE. Neither FPE nor FNE mediated the relationship between social anxiety and suppression. However, our analyses revealed a double mediation, i.e., an indirect effect of social anxiety on suppression via the mediators FPE and acceptance. FNE did not seem to play a role in the relationship between social anxiety, acceptance, and suppression.

Numerous studies have found that social anxiety is associated with the non-acceptance of emotions (Mathews et al., 2014; Schneider et al., 2016; Young et al., 2019) as well as the suppression of emotions (Gómez-Ortiz et al., 2018; Klemanski et al., 2017). Other studies have consistently shown that a non-accepting attitude towards emotional experiences is associated with more negative and less positive affect (Spokas et al., 2009). On a similar note, suppression of emotions can have a counterproductive effect with regard to the subjective experience of emotions, i.e., negative emotions are amplified and positive emotions are dampened when suppressed (Dryman & Heimberg, 2018). These regulatory difficulties can be understood as aspects of the positivity impairment frequently observed in

socially anxious individuals. FPE is thought to be of particular relevance to this positivity impairment, as it is associated with increased negative and decreased positive affect at both the state and trait levels (Weeks et al., 2010) as well as the disqualification of positive social outcomes (Weeks & Howell, 2012). Our analyses provide additional support for this idea by showing that adolescents who reported high levels of FPE also reported difficulties in accepting their emotions, which, in turn, is associated with more frequent suppression of emotions. Thus, our findings suggest that it is via FPE that social anxiety is linked to non-acceptance and suppression. Additionally, consistent with Weeks and Howell's thoughts on this matter (Weeks & Howell, 2014), FNE could not explain these associations, which suggests that it is indeed mainly FPE that drives these positivity-related difficulties. Since the measure we used does not distinguish between the acceptance and suppression of positive or negative emotions but measures the general tendency to reject and suppress emotions of any valence, it is difficult to draw conclusions about the relationship between FPE and the emotion regulation of positive or negative emotions. Nonetheless, our analyses suggest that it is FPE rather than FNE that explains the apparent difficulty in accepting emotional experiences and, subsequently, suppressing them.

On the other hand, FPE does not appear to play a role in rumination, a well-established emotion regulatory deficit among socially anxious adolescents (Hodson et al., 2008; Klemanski et al., 2017; Kley et al., 2012; Sackl-Pammer et al., 2019; Schmitz et al., 2011). Socially anxious individuals have been shown to repeatedly harbor negative thoughts before or after social or performance situations, often focusing on the perceived negative aspects of said situations and brooding over them (Brozovich & Heimberg, 2013). These findings suggest that FNE may be the underlying driver of the social anxiety–rumination link, as the negative aspects of self and the situation seem to be in focus. Hence, our finding is

consistent with the notion that FNE is more specifically associated with excessive negativity in the context of social anxiety (Weeks & Howell, 2014).

Practical Implications

SAD in children, adolescents, and adults has been shown to be relatively resistant to state-of-the-art treatment approaches, such as cognitive-behavioral therapy, compared to other anxiety disorders (Carpenter et al., 2018; Hudson et al., 2015). There are several explanations for this phenomenon, including a compromised ability to build stable and strong therapeutic relationships, difficulty performing exposure tasks due to impaired interpersonal interactions, and a general inability to achieve disconfirmation of fear expectations in social situations (Hudson et al., 2015). As research on FPE has proliferated over the past decade, it too has been identified as a potential barrier to achieving positive outcomes in CBT with socially anxious individuals. Given that most evidence-based treatment models, including CBT, focus on restructuring patients' dysfunctional cognitions related to negative evaluation and that the mechanisms of change of many commonly used interventions depend on the individual's ability to accept and integrate positive reinforcement into their life, fear and rejection of positive feedback might hinder a successful treatment process (Fredrick & Luebke, 2020; Reichenberger et al., 2016).

Our findings support this assumption by showing that FPE may not only act as a deterrent to positive reinforcement but may also have negative effects on individuals' emotion regulation. Specifically, it appears to be associated with difficulties in the acceptance and subsequent expression of emotions, which, in a therapeutic setting, would compromise the utility of almost any targeted intervention for individuals. In addition, as considered by Hudson and colleagues (2015), it could be one of the factors that prevent socially anxious individuals from forming strong therapeutic relationships. Furthermore, it could also be a reason for the difficulty in achieving disconfirmation of fearful expectations in social

situations, as positive outcomes are regularly disqualified and positive feelings are not accepted or expressed.

Weeks and colleagues (Weeks et al., 2020) developed a brief cognitive–behavioral treatment protocol specifically targeted at FPE. It included psychoeducation related to FPE, cognitive restructuring of FPE-specific negative automatic thoughts, and implementation of in-session and in-vivo exposure tasks focused on either self-presentation or accepting and receiving compliments. The initial results seem quite promising, as not only did FPE scores decrease after treatment but so did the severity of social anxiety symptoms in general. Moreover, studies have shown that acceptance-based treatment modules, such as ACT (acceptance and commitment therapy; Hayes et al., 2012), are viable alternatives to CBT in terms of symptom reduction in SAD (Herbert et al., 2018; Niles et al., 2014) and that interventions targeting emotion dysregulation in SAD also lead to positive outcomes (Goldin et al., 2014). Taken together, fear of evaluation and emotion dysregulation are aspects of social anxiety that are ideally targeted simultaneously in therapeutic interventions by focusing on restructuring the cognitive biases associated with compliments and criticism, elucidating their possible connections to maladaptive emotion regulation strategies and promoting non-judgmental, accepting attitudes and appropriate expression of emotional experiences. This has the potential to reduce experiential avoidance and improve the ability to savor positive effects in social situations, ultimately leading to more sustainable treatment successes in the long term. Considering that adolescence is a period that is characterized by increases in evaluative fears and changes in emotion regulation strategy use (J. T. Gross & Cassidy, 2019; Westenberg et al., 2007), targeting adolescents’ fears of evaluation, positive and negative, as well as expanding their emotion regulation repertoire might prove to be particularly effective in this developmental period.

Limitations

This study has some limitations that need to be addressed. First and foremost, analyses in this study were conducted with cross-sectional data that were collected online from a self-selected convenience sample. On that note, it is noteworthy that our recruiting strategy revolved mainly around reaching adolescents on social media. We must, therefore, acknowledge that we might have reached participants that spend a lot of time on digital devices and social media. Given that problematic smartphone use has been linked to fears of evaluation (Wolniewicz et al., 2018), this might have amplified the aforementioned self-selection effect.

With regards to the cross-sectional structure of our data, since temporal ordering and elimination of competing explanations are, by definition, absent from our design, we cannot draw any conclusions about causal relationships among study variables from our analyses (A. F. Hayes & Rockwood, 2020). Thus, longitudinal designs, as well as experimental designs, are needed in order to accurately assess the proposed mediation effects. Additionally, the exclusive reliance on adolescents' self-reports limits the implications of our results, given the neglect of others' perceptions (e.g., parents, peers, clinicians) and the risk of inflated effect sizes due to common method variance. Furthermore, our sample was comprised primarily of individuals that self-identified as female, making generalizations to the broader (gender-diverse) adolescent population questionable.

Another important limitation of this study concerns our operationalization of emotion regulation. Although trait or habitual emotion regulation has been extensively studied in studies with cross-sectional designs, recent considerations have improved our understanding of the construct and have shed light on problems that might arise from such an approach (Aldao et al., 2015). Emotion regulation is a highly complex and dynamic process, which means that a pure black-and-white distinction between maladaptive and adaptive strategies most likely does not encompass all facets of functional emotion regulation. In fact, it is not

possible to make any assumptions about adaptive or successful emotion regulation without taking into account situational–contextual and personality-related aspects (Kobylińska & Kusev, 2019). It is, therefore, advisable to assess the flexibility of emotion regulation, i.e., state emotion regulation across different situations, for example, via ecological momentary assessment (EMA) (Aldao et al., 2015), when trying to understand the role it plays in everyday life in different psychopathologies.

Furthermore, although screening instruments do not allow conclusions to be drawn about the presence of a mental disorder, it is noteworthy that 61.8% and 72.7% of our adolescent sample exceeded the commonly used cut-off values for depressive disorders (cut-off = 11 in the PHQ-9; Richardson et al., 2010) and social anxiety disorders (cut-off = 24 in the SPIN; Ranta, Kaltiala-Heino, Rantanen, et al., 2007), indicating that the present sample is a particularly distressed group of adolescents. In fact, 25.5% of participants were in psychotherapeutic or psychiatric treatment at the time of survey response, which is well above average prevalence rates in the German-speaking area (Wagner et al., 2017). Although we cannot rule out the possibility that survey-specific characteristics contributed to these high numbers—such as the fact that the participants were a self-selected convenience sample whose underlying distress might have driven their participation, as well as the fact that this study was conducted during the COVID-19 pandemic, during which the prevalence rates of distress had risen significantly (Racine et al., 2021)—these are very high percentages that merit attention and must be taken into account when interpreting our results.

In this context, the fact that this study was conducted during the COVID-19 pandemic warrants discussion. Several pandemic-related items (concerning lockdown, schooling, quarantine, parental home-office, and other restrictions) were created and included in the first section of the online survey to assess participants' circumstances at the time they completed it. Additionally, we assessed the overall subjective burden of the pandemic on a visual analog

scale (VAS), ranging from 0–100. Bivariate correlations revealed that the VAS score was significantly associated with fears of positive and negative evaluation, social anxiety, rumination, and depressive symptoms after applying a Bonferroni correction, albeit relatively weakly (see Table S3). However, since we controlled for depressive symptoms in all of our models, we chose to omit this variable from the main analyses. Nevertheless, the finding remains that adolescents who perceived the pandemic as more burdening also reported higher scores on the clinical scales as well as on rumination.

Conclusions

In this study, we examined the associations between adolescents' social anxiety, fears of positive and negative evaluation, and three emotion regulation strategies, i.e., acceptance, suppression, and rumination. Additionally, we investigated the two types of fear of evaluation as potential mediators in the link between social anxiety and these emotion regulation strategies. Our results suggest that social anxiety is indirectly associated with suppression via FPE and acceptance and indirectly associated with rumination, mediated by FNE. These findings provide additional support that FPE might be the driving force behind the positivity impairment observed in socially anxious adolescents, whereas fear of negative evaluation is thought to be associated with an excess of negativity, for example, in the form of repetitive negative automatic thoughts. We eagerly await further research on the role of fears of evaluation in combination with emotion regulation in social anxiety in adolescence, specifically the fear of positive evaluation, which we consider a promising new avenue of research.

Statements

Ethics

The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of the University of Vienna (protocol code 00730, 18 November 2021). Open access funding by the University of Vienna.

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Conflict of Interest

The authors declare no conflicts of interest.

Author Contributions (CRediT)

Conceptualization: ATF; Methodology: ATF, RLvE, MZ; Software: MZ; Validation: ATF; Formal analysis: ATF, RLvE; Investigation: ATF; Resources: MZ; Data curation: ATF; Writing – original draft: ATF; Writing – review and editing: ATF, RLvE, MZ; Visualization: ATF; Supervision: MZ; Project administration: ATF, MZ; Funding acquisition: ATF, MZ.

Supplementary Material and Data Availability Statement

Codes and statistical outputs are available at <https://osf.io/ceyws/> (see file “Syntaxes, Inputs, Outputs”). Supplementary materials can be accessed at <https://www.mdpi.com/article/10.3390/jcm11205979/s1> and are also included in the annex of this thesis.

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Master's Theses

Fössing, V. E. (2022). Jugendliche soziale Ängstlichkeit und Angst vor Bewertung – die Rolle der Emotionsregulation. [Adolescent social anxiety and fear of evaluation – the role of emotion regulation.] [Unpublished master's thesis]. University of Vienna.

Liebel, M. (2022). Die Angst vor (positiver) Bewertung – soziale Ängstlichkeit und Emotionssuppression bei Jugendlichen. [The fear of (positive) evaluation – social anxiety and emotion suppression in adolescents.] [Unpublished master's thesis]. University of Vienna.

Abbreviations

ACC = Acceptance; ASQ-Y = Affective Style Questionnaire–Youth; BFNE = Brief Fear of Negative Evaluation Scale; CFI = Comparative Fit Index; DEP = Depression (PHQ-9 score); DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, 5th Edition; EMA = Ecological Momentary Assessment; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; FPES = Fear of Positive Evaluation Scale; ICD-11 = International Classification of Diseases, 11th Revision; MLMV = Mean–Variance-Adjusted Maximum Likelihood Estimation; OSF = Open Science Framework; PEP = Post-Event Processing; PHQ-9 = Patient Health Questionnaire-9; PTQ = Perseverative Thinking Questionnaire; RMSEA = Root Mean Square Error of Approximation; RUM = Rumination; SA = Social Anxiety; SAD = Social Anxiety Disorder; SEM = Structural Equation Modeling; SPIN = Social Phobia Inventory; SRMR = Standardized Root Mean Square Residual; SUP = Suppression; TLI = Tucker–Lewis Index; VAS = Visual Analog Scale; VIF = Variance Inflation Factor.

Chapter 2

Fears of Positive and Negative Evaluation and their Within-Person Associations with Emotion Regulation in Adolescence: A Longitudinal Analysis

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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 six 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: fear of positive evaluation, emotion regulation, social anxiety, adolescence, random intercept cross-lagged panel model

Theoretical Background

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 towards 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 (APA, 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 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, Heimberg, Rodebaugh, 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 & Luebke, 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 regulations 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, i.e., 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 six 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 datasets, 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 datasets 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 to 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 minutes and 37 seconds (877.11 seconds, $SD = 303.31$). 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 cut-off set at 24 according to Ranta and colleagues (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 three (T2) and six (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 dataset.

The mean survey completion times were 12 minutes and 18 seconds (738.48 seconds, $SD = 270.19$) at T2 and 10 minutes and 54 seconds (654.67 seconds, $SD = 165.74$) 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 three (T2) and six (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).

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, e.g., spending alternate weeks with each parent; ^cOther = Homeschooling and other types of schooling.

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 were prompted to complete all questions if any response 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, i.e., 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 seconds (7 minutes and 40 seconds), 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 two 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 Social Phobia Inventory (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 two 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 two weeks to three 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

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 twelve 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 fear of negative evaluation. 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 & Luebbe,

2021).

Fear of Positive Evaluation

Fear of positive evaluation (FPE) was assessed using the Fear of Positive Evaluation Scale (FPES; Schwarz et al., 2016; Weeks, Heimberg, & Rodebaugh, 2008). The FPES comprises ten 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 fear of positive evaluation. 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 Luebbe (2021).

Emotion Regulation

The Affective Style Questionnaire–Youth (ASQ–Y; Graser et al., 2019; Hofmann & Kashdan, 2010) was used to assess suppression and acceptance. This questionnaire consists of 20² 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

² Seven items measure adjusting/reappraisal, which were not used for the present analysis.

(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, i.e., 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 analogue scale (VAS) 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.

Following the recommendations of Nicholson and colleagues (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 sociodemographic 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 Little's Missing Completely at Random (MCAR) 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 (FIML) was used in our main analyses to address missing data in our sample.

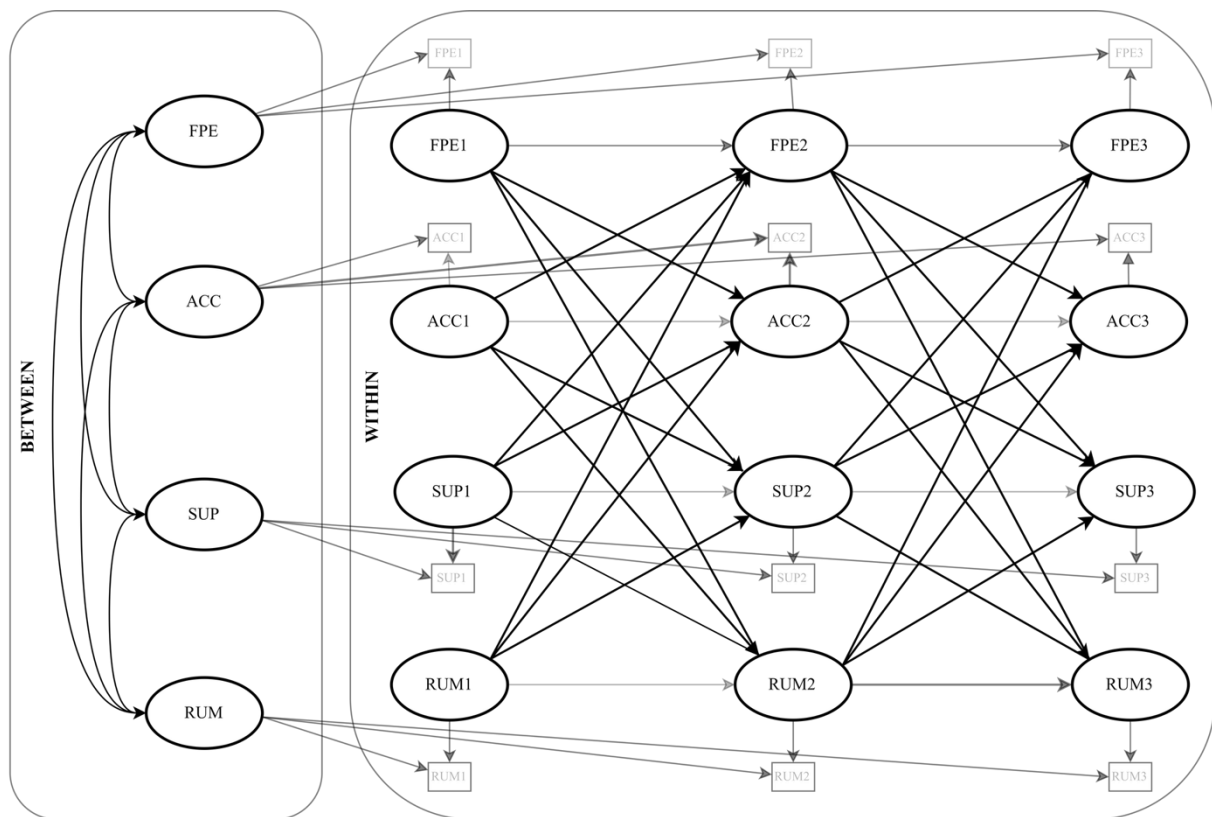
Data Analysis

Data were analyzed using SPSS 28 (IBM Corp., 2022) 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 (three 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 on <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.

Figure 1

Conceptual Random Intercept Cross-Lagged Panel Model



Note. 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.

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 good model fit, widely used cut-off 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.

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; SA = Social anxiety; COV = Subjective burden due to the COVID-19 pandemic.

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 twelve 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, i.e., 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, 4, and 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 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 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.

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.

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.

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.

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).

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.

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 (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. Whereas 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 towards 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 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 (Golombek 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 towards 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 were 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, 2022; McLaughlin, 2011; Schneider 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 and colleagues (2020).

Considering the growing importance of peer relationships and the school environment during adolescence (Spence & Rapee, 2016), it is crucial to examine how fear of positive evaluation 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 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 fear of positive evaluation, 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 fear of negative evaluation 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.

Statements

Ethics

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). Open access funding by the University of Vienna.

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Conflict of Interest

The authors declare no competing interests.

Author Contributions (CRediT)

Conceptualization: ATF, MZ; data curation: ATF; formal analysis: ATF, UST; funding acquisition: ATF, MZ; investigation: ATF; methodology: ATF, UST, MZ; project administration: ATF, MZ; resources: MZ; software: ATF, UST, MZ; supervision: MZ; validation: ATF; visualization: ATF; writing– original draft: ATF; writing– review and editing: ATF, UST, MZ.

Open Science and Supplementary Material

Datasets, codes, and analysis outputs are available at <https://osf.io/hzmvc>. The preregistration can be found at <https://osf.io/fgeb3>. The supplementary material for this article can be found at <https://doi.org/10.1017/S0954579424001366> and are also available in the annex of this thesis.

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Master's Theses

- Fössing, V. E. (2022). Jugendliche soziale Ängstlichkeit und Angst vor Bewertung – die Rolle der Emotionsregulation. [Adolescent social anxiety and fear of evaluation – the role of emotion regulation.] [Unpublished master's thesis]. University of Vienna.
- Liebel, M. (2022). Die Angst vor (positiver) Bewertung – soziale Ängstlichkeit und Emotionssuppression bei Jugendlichen. [The fear of (positive) evaluation – social anxiety and emotion suppression in adolescents.] [Unpublished master's thesis]. University of Vienna.

Abbreviations

ACC = Acceptance; ASQ-Y = Affective Style Questionnaire–Youth; BCCI = Bias-Corrected Confidence Interval; BFNE = Brief Fear of Negative Evaluation Scale; CFI = Comparative Fit Index; COV = Subjective Burden of the COVID-19 Pandemic; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; FPES = Fear of Positive Evaluation Scale; PTQ = Perseverative Thinking Questionnaire; RI-CLPM = Random Intercept Cross-Lagged Panel Model; RMSEA = Root Mean Square Error of Approximation; RUM = Rumination; SA = Social Anxiety; SPIN = Social Phobia Inventory; SRMR = Standardized Root Mean Square Residual; SUP = Suppression; TLI = Tucker–Lewis Index

Chapter 3

Social Anxiety and Emotion Regulation in the Everyday Life of Adolescents: An Ecological Momentary Assessment (EMA) Study

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Abstract

Theoretical background: Social anxiety during adolescence is often linked to deficits in emotion regulation, which can contribute to heightened negative affect and diminished positive affect in everyday life. *Objective:* This study investigated whether three emotion-regulation strategies – acceptance, suppression, and rumination – mediate the relationship between social anxiety and daily affect in adolescents. *Method:* A sample of 47 adolescents completed ecological momentary assessments over 14 days. Social anxiety was assessed as a trait, while daily positive and negative affect as well as emotion regulation strategies were measured multiple times per day. *Results:* Multilevel structural equation models showed that social anxiety was significantly associated with lower acceptance of positive and negative emotions, higher suppression of negative emotions, and increased rumination. Acceptance of positive emotions mediated the link between social anxiety and reduced positive affect, while rumination mediated the link with negative affect. *Discussion and conclusion:* These findings underscore the importance of addressing both positive and negative emotional experiences and their regulation in the field of social anxiety in adolescents.

Keywords: social anxiety, emotion regulation, positivity impairment, adolescence, ecological momentary assessment

Soziale Angst und Emotionsregulation im Alltag von Jugendlichen – Eine elektronische Tagebuchstudie

Zusammenfassung

Theoretischer Hintergrund: Soziale Ängste im Jugendalter hängen häufig mit Emotionsregulationsdefiziten zusammen, was zu verstärktem negativem Affekt und verringertem positivem Affekt im Alltag führen kann. Fragestellung: In dieser Studie wurde untersucht, ob Akzeptanz, Unterdrückung und Rumination den Zusammenhang zwischen sozialer Angst und Affekt bei Jugendlichen medieren. Methode: 47 Jugendliche nahmen über 14 Tage an einer Tagebuchstudie teil. Ergebnisse: Multilevel Strukturgleichungsmodelle zeigten, dass soziale Angst mit geringerer Akzeptanz von positiven und negativen Emotionen sowie vermehrter Rumination und Unterdrückung negativer Emotionen verbunden war. Die Akzeptanz positiver Emotionen vermittelte die Beziehung zwischen sozialer Angst und reduziertem positivem Affekt, Rumination den Zusammenhang mit negativem Affekt. Diskussion und Schlussfolgerung: Diese Befunde verdeutlichen die Relevanz der Regulation positiver und negativer Emotionen im Jugendalter.

Schlüsselwörter: soziale Angst, Emotionsregulation, Adoleszenz, Tagebuchstudie

Theoretical Background

Social anxiety disorder (SAD) is characterized by intense fears in social or performance situations in which individuals may be observed and evaluated (APA, 2013). SAD commonly manifests in adolescence, a period marked by increased sensitivity to social evaluation (Westenberg et al., 2007), making it one of the most prevalent anxiety disorders in this age group (Ollendick et al., 2014). Although heightened negative affect (NA) and physiological arousal have long been considered hallmark features of SAD (Clark & Watson, 1991), more recent studies have highlighted a unique feature that differentiates it from other anxiety disorders: its association with decreased positive affect (PA) and diminished positive social experiences (Gilboa-Schechtman et al., 2014). Moreover, social anxiety, in both clinical and subclinical forms, is associated with difficulties in *emotion regulation* (Golombek et al., 2020), a transdiagnostic construct that refers to an individual's efforts to manage the occurrence, timing, intensity, and expression of their emotions (Gross, 2015). Specifically, studies with youth community samples have found links to specific strategies generally viewed as maladaptive, such as expressive suppression (Klemanski et al., 2017), lower acceptance (Mathews et al., 2014), and increased rumination (Jose et al., 2012).

While the rise in social fears during adolescence is partly a phenomenon of normative development (Westenberg et al., 2007), it may contribute to exacerbating social anxiety symptoms when connected with the general tendency to use maladaptive emotion regulation often observed in this age group (Cracco et al., 2017; Ollendick et al., 2014). The goal of this study was to employ ecological momentary assessment (EMA) to investigate whether acceptance, suppression, and rumination mediate the relationship between adolescents' social anxiety and their daily affect in a youth convenience sample. The findings of this study could inform the further development of targeted interventions aimed at equipping adolescents experiencing social anxiety with effective skills for managing their emotions.

Impaired Affect in Social Anxiety

Over three decades ago, in their tripartite model of anxiety and depression, Clark and Watson (1991) proposed that increased NA and physiological arousal are key features of anxiety disorders, while decreased PA is more specific to depression. In line with this idea, multiple studies across diverse populations have consistently established the link between social anxiety and these constructs (Anderson et al., 2010; Asbrand et al., 2017). However, other studies demonstrated that social anxiety is also linked to decreased global PA and, specifically, PA following a social interaction, above and beyond the impact of depressive symptoms on PA (Brown et al., 1998; Gilboa-Schechtman et al., 2014). Research suggests that cognitive factors, such as fear of positive evaluation (Weeks et al., 2008), a tendency to underestimate the likelihood of positive events while overestimating their negative consequences (Kashdan & Steger, 2006), and a propensity toward dismissal of positive social experiences when they do occur (Everaert et al., 2020), contribute to this reduced perceived positivity. These cognitive distortions, in turn, interact with emotional factors that play an important role as well; for instance, individuals experiencing social anxiety, both at clinical and subclinical levels, are less accepting of emotional experiences (Mathews et al., 2014), rely more strongly on expressive suppression (Dryman & Heimberg, 2018), and brood excessively over their own negative emotions and behaviors (Brozovich & Heimberg, 2008). These phenomena converge into a broader feature of social anxiety, often referred to as positivity impairment (Gilboa-Schechtman et al., 2014). This framework underscores the role of emotional factors and emotion regulation in the maintenance of high NA and reduced PA in the daily life of individuals experiencing social anxiety, across both social and nonsocial situations.

Emotion Regulation

Emotion regulation reflects the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions (Gross, 1998, p. 275). In the context of social anxiety, an overreliance on mostly maladaptive emotion-regulation strategies, such as limited acceptance of emotions, emotional suppression, and rumination, have been identified as contributing factors to both the heightened NA and the diminished PA (Brozovich & Heimberg, 2008; Dryman & Heimberg, 2018; Kashdan, 2007; Spokas et al., 2009).

Regarding acceptance, research shows that socially anxious individuals often struggle with accepting their emotions, leading to discomfort when confronted with naturally occurring NA, which can often exacerbate it (Mathews et al., 2014). However, this phenomenon is not limited to negative emotions; socially anxious adults rather exhibit difficulties in accepting positive social experiences and the associated positive emotions (Kashdan & Breen, 2008). Similar challenges with accepting emotions have been observed in adolescents, with social anxiety often being associated with reduced emotional acceptance (Mathews et al., 2014; Young et al., 2019).

Suppression, the voluntary inhibition of verbal and behavioral expression of emotions (Gross, 2015), has also consistently been associated with social anxiety in both adults (Dryman & Heimberg, 2018) and adolescents (Klemanski et al., 2017). This emotion-regulation strategy is considered to be *relatively* maladaptive, since the suppression of negative emotions tends to exacerbate emotional distress (Dryman & Heimberg, 2018), whereas the suppression of positive emotions dampens their intensity and may thus contribute to the aforementioned positivity impairment (Blalock et al., 2016; Farmer & Kashdan, 2012).

Lastly, rumination, often referred to as repetitive negative thinking, typically manifests as post-event processing in individuals with social anxiety: It involves dwelling on perceived inadequacies and negative outcomes from past social interactions (Brozovich &

Heimberg, 2008), focusing on the perceived causes of the experienced negative affect (McLaughlin & Nolen-Hoeksema, 2011). This tendency to selectively recall negative aspects of past behaviors can reinforce NA and dampen PA (Everaert et al., 2020; Sackl-Pammer et al., 2019).

Taken together, these three emotion-regulation strategies (i.e., acceptance, suppression, and rumination) appear to be of particular importance for social anxiety in adolescents, given their hypothesized links with fears of evaluation, which also peak during this developmental stage (Westenberg, 2007). The association between nonacceptance of positive and negative emotional experiences and social anxiety in adolescence has been theorized to stem from a fear of drawing attention to oneself (Mathews et al. 2014). Similarly, Jazaieri and colleagues (2015) proposed that a comparable process may apply to the suppression of both positive and negative emotions. Lastly, rumination appears to be especially relevant in this context, as it tends to focus on perceived personal inadequacies and the anticipation of evaluation by others (Brozovich & Heimberg, 2008). Therefore, these three emotion-regulation strategies warrant particular attention when examining social anxiety in adolescence.

The current study

In summary, social anxiety is linked to both heightened NA and decreased PA (Gilboa-Schechtman et al., 2014) as well as challenges in regulating emotions (Sackl-Pammer et al., 2019). More specifically, suppression and rumination have been shown to increase negative emotions and decrease positive emotions (Brozovich et al., 2015; Dryman & Heimberg, 2015; Everaert et al., 2020), whereas the nonjudgmental acceptance of emotions has the opposite effect (Lindsay & Creswell, 2017). These strategies may thus serve as key mechanisms linking social anxiety to its associated emotional difficulties.

This study examined whether these three strategies mediate the relationship between social anxiety and daily affect in adolescents – an area that, to our knowledge, has not yet been investigated. By capturing real-time emotional experiences, EMA provides insights into these processes in adolescents’ everyday lives, offering a more nuanced understanding of how social anxiety is linked to emotion regulation (Kaurin & Kolar, 2022; Shiffman et al., 2008).

Our preregistered hypotheses (<https://osf.io/srvj3>; see Research Question 4) were as follows: Social anxiety is associated with (1) increased suppression of both positive and negative affect, (2) decreased acceptance of positive and negative affect, and (3) increased rumination. We also expected that (4) the effect of social anxiety on PA is mediated by higher suppression and lower acceptance of positive emotions, while (5) the effect on NA is mediated by higher suppression and lower acceptance of negative emotions, as well as increased rumination.

In addition to our preregistered analyses, we conducted a sensitivity analysis to partial out the effects of depressive symptoms on our outcome measures, given the frequent comorbidity between social anxiety and depression (Adams et al., 2016) and the known impact of depression on daily affect (Griffith et al., 2023).

Method

Sample

This study is part of a larger ongoing project to investigate the role of fears of evaluation in adolescents’ emotional reactions and emotion regulation in response to social evaluation in their daily lives. A convenience sample of 47 ($N_{datapoints} = 1,998$) German-speaking adolescents aged 14 to 18 ($M_{age} = 16.15$, 75% female) was drawn from Austria (34 participants) and Germany (13 participants). Inclusion criteria required adequate German language skills, as determined by self-assessment, active school attendance, and the ability to

use smartphones during breaks between classes. The sample represented a variety of school types with 27 participants attending regular middle or high schools, nine attending vocational schools, and others attending different types, such as international schools. Strikingly, over half of the participants exceeded the thresholds for clinically significant depression ($M = 12.06$, $SD = 6.59$, participants over the cut-off = 55.3%) and social anxiety ($M = 25.55$, $SD = 14.36$, participants over the cut-off = 53.2%), as determined by the Patient Health Questionnaire (PHQ-9; cut-off score: 11; Richardson et al., 2010) and the Social Phobia Inventory (SPIN; cut-off score: 24; (Ranta et al., 2007), both validated in adolescent samples. Despite these high levels of distress, only 12.8% of participants reported receiving psychiatric or psychotherapeutic treatment at the time; one participant reported suffering from long-COVID.

Procedure

Data collection took place between 1 December 2023 and 30 June 2024, before pausing for the summer holidays, using the SoSci Survey platform (Leiner, 2024). We carried out recruitment via social media, youth centers, and through direct outreach to participants from previous studies. Interested participants accessed the study through a QR code or direct link and received detailed information regarding the study's purpose, procedures, and data-protection policies. An electronic informed consent process followed, and we conducted eligibility screening to confirm that the participation criteria were met. Eligible participants provided an email address to receive further communication. We stored these email addresses separately from the participants' answers to the baseline and daily questionnaires. We used randomly generated alphanumeric codes to link responses from the same participant, but this code could not be connected to the participants' email addresses. Thus, data collection was fully anonymized, ensuring that participants' personal information could not be linked to their responses.

Participants completed a baseline assessment lasting about 10 minutes, followed by a trial assessment to familiarize them with the EMA process and items. This trial assessment included clear definitions and examples of the assessed emotion-regulation strategies to ensure participants interpreted these concepts consistently. The 14-day diary phase commenced the following day, during which participants received four daily survey prompts at set intervals (9:00, 13:00, 17:00, and 21:00) via email. Each survey, which took 1-2 minutes to complete, focused on the participant's emotional state and emotion-regulation strategies since waking or since the previous timepoint. Participants were required to respond within 2 hours of each prompt. A total of 118 participants completed the baseline survey and opted to participate in the diary phase. Of these, we excluded 21 participants because of suspicions of nonserious participation, resulting in a final sample of 97 participants. Among these, 50 participants completed fewer than half of the scheduled timepoints, which did not meet the preregistered minimum threshold for inclusion in the analyses. Consequently, the final dataset consisted of 47 participants with a total of 1,998 data points. Figure E1 in the electronic supplement illustrates the EMA procedure, along with a detailed description of the data exclusion process and the attrition analysis.

We offered incentives based on survey completion rates, with participants receiving 20 Euros for completing 50% of the surveys, 30 Euros for 75%, and 40 Euros for completing 90% or more. The Ethics Committee of the University of Vienna approved the protocol of this study before the start of data collection (protocol number 01076, 28 November 2023).

Measures

Baseline Assessment

Social Anxiety

We assessed social anxiety using the German version of the Social Phobia Inventory (SPIN; Von Consbruch et al., 2016; original version by Connor et al., 2000). The SPIN is a

self-report questionnaire consisting of 17 items. Participants completed each item on a 5-point rating scale (0 = *not at all*, 1 = *a little bit*, 2 = *somewhat*, 3 = *very much*, 4 = *extremely*), indicating the degree to which they were affected by social anxiety symptoms during the past week. In the current study, the SPIN showed high internal consistency, with a Cronbach's alpha of $\alpha = .91$.

Depressive Symptoms

We assessed depressive symptoms using the depression module of the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001; German version by Gräfe et al., 2004). The PHQ-9 includes 9 items, each rated on a 4-point frequency scale (0 = *not at all*, 1 = *on several days*, 2 = *on more than half the days*, 3 = *nearly every day*), yielding a total score ranging from 0 to 27. In the current study, the PHQ-9 showed strong internal consistency, with a Cronbach's alpha of $\alpha = .88$.

Ecological Momentary Assessment

During the diary study, participants rated their current levels of positive and negative affect as well as their attempts to regulate emotions since waking or the last timepoint, using visual analogue scales from 0 to 100. Items assessing state affect were adapted from Cloos et al. (2023) and presented without anchors (e.g., "To what extent are you experiencing positive/negative emotions in this moment?"). The authors recommend using single items without anchors when the goal is to investigate associations between momentary affect and other constructs of interest, as they provide sufficient explanatory power compared to composite scores derived from multiple items. Emotion-regulation items were partly self-developed and adapted from McMahon and Naragon-Gainey (2019), focusing on participants' attempts to regulate emotions (i.e., "Since the last timepoint, to what extent do the following statements apply to your positive/negative emotions?"). Five items assessed emotion regulation: two for positive emotions and three for negative emotions. For both, we

measured acceptance (“I accepted how I felt without judging myself”) and suppression (“I tried not to show how I felt”). For negative emotions, an additional item assessed rumination (“I couldn’t stop thinking about how bad I felt or why I felt this way”). We defined acceptance as the nonjudgmental tolerance of emotional states, aligning with definitions in mindfulness research and addressing a core difficulty frequently associated with social anxiety (Lindsay & Creswell, 2017; Mathews et al., 2014). We defined suppression based on Gross’s concept of expressive suppression in the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003; German version by Abler & Kessler, 2009), referring specifically to the inhibition of emotional expression. Rumination, as defined in this study, corresponds to the conceptualization of McLaughlin and Nolen-Hoeksema (2011), who described it as a cognitive process in which individuals unproductively dwell on their mood, along with its symptoms, causes, and consequences.

Data Analysis

We employed an intensive longitudinal design with repeated measures (Level 1) nested within individuals (Level 2), clustering the data by individual. To account for this nonindependence, we used mixed linear modelling. We prepared sample descriptions, descriptive analyses, and the calculation of intraclass correlation coefficients (ICC) for mediators and dependent variables in SPSS (Version 29). For the multilevel structural equation models (MSEM), we used Mplus 8.5 (Muthén & Muthén, 2017) with Bayesian estimation. We used MSEM to disaggregate between- and within-person effects by decomposing observed variables into latent within-person (Level 1) and between-person (Level 2) components. This method subjects all Level 1 variables to a latent decomposition, which involves estimating intercepts from observations while accounting for differences in the reliability of scores, which can vary because of the number of observations per

participant. By incorporating this latent decomposition, MSEM provides more reliable and less biased estimates at the between-person level (Sadikaj et al., 2021).

We specified two models: one for PA as the outcome, with social anxiety as a predictor, suppression and acceptance of positive emotions as mediators; and one for NA, where social anxiety predicted NA, mediated by suppression, acceptance of negative emotions, and rumination. We evaluated significant effects using 95% credible intervals. To account for depressive symptoms, given their known associations with social anxiety and affect fluctuations (Griffith et al., 2023), we re-ran the models with depressive symptoms as a Level 2 covariate.

Results

The supplemental materials (see ESM 1, Table E2) provide a table summarizing the means, standard deviations, and correlations of the main study variables.

Positive Affect Model

The null model showed an ICC of .29 for PA ($M = 53.96$, $SD = 14.82$), indicating 29% of variance was because of between-person differences. The ICCs for suppression ($M = 21.06$, $SD = 14.57$) and acceptance ($M = 69.35$, $SD = 22.77$) of positive emotions were .32 and .57, respectively. We found no direct effect of social anxiety on PA ($b = 0.24$, 95% CI $[-6.55, 7.11]$). However, social anxiety was linked to lower acceptance of positive emotions ($b = -13.17$, 95% CI $[-20.89, -5.90]$), which, in turn, was related to PA at the between-person level ($b = 0.27$, 95% CI $[0.06, 0.54]$). At the within-person level, acceptance was associated with higher PA ($b = 0.21$, 95% CI $[0.07, 0.31]$), while suppression was related to lower PA ($b = -0.09$, 95% CI $[-0.17, -0.01]$). Mediation analysis showed a significant indirect effect of social anxiety on PA through acceptance of positive emotions ($b = -3.11$, 95% CI $[-7.99, -0.68]$). Table 1 shows the full results.

Negative Affect Model

The null model showed an ICC of .17 for NA ($M = 29.40$, $SD = 10.34$), meaning between-person differences explained 17% of variance. The ICCs for suppression ($M = 39.65$, $SD = 19.28$), acceptance ($M = 58.46$, $SD = 22.93$) of negative emotions, and rumination ($M = 29.26$, $SD = 17.51$) were .33, .52, and .33, respectively. At the between-person level, social anxiety negatively affected acceptance of negative emotions ($b = -12.39$, 95% CI $[-20.89, -4.58]$), but had a positive effect on rumination ($b = 10.37$, 95% CI $[4.00, 15.98]$) and suppression ($b = 8.11$, 95% CI $[0.86, 15.16]$). Social anxiety and rumination were also associated with negative affect, $b = 4.44$, 95% CI $(1.70, 7.46)$ and $b = 0.24$, 95% CI $(0.06, 0.42)$, respectively. Indirect effects showed that rumination mediated the effect of social anxiety on NA ($b = 2.48$, 95% CI $[0.50, 5.00]$). At the within-person level, suppression ($b = 0.07$, 95% CI $[0.01, 0.12]$) and rumination ($b = 0.31$, 95% CI $[0.22, 0.43]$) were positively associated with NA, whereas acceptance ($b = -0.09$, 95% CI $[-0.17, -0.02]$) showed a negative association with NA. Table 2 shows the full results.

Table 1*Fixed Direct and Indirect Effects of the Model Examining Positive Affect*

Between-person effects					
Outcome	Predictors	<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
<i>Acceptance of PA</i>	SA	-13.17	2.84	-20.89	-5.90
<i>Suppression of PA</i>	SA	4.47	2.84	-1.42	9.65
<i>PA (between)</i>	SA	0.24	3.06	-6.55	7.11
	SP	0.32	0.18	-0.02	0.75
	ACP	0.27	0.12	0.06	0.54
Within-person effects					
Outcome	Predictors	<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
<i>Acceptance of PA</i>	Intercept	68.54	3.60	61.96	75.69
	Time	0.13	0.03	0.09	0.20
<i>Suppression of PA</i>	Intercept	20.14	2.43	15.33	24.73
	Time	-0.21	0.03	-0.27	-0.14
<i>PA (within)</i>	Intercept	28.49	11.00	4.12	48.94
	Time	0.06	0.03	0.003	0.11
	ACP	0.21	0.06	0.07	0.31
	SP	-0.09	0.04	-0.17	-0.01
Between-person indirect effects					
Path		<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
SA → ACP → PA		-3.11	1.82	-7.99	-0.68
SA → SP → PA		1.48	1.35	-0.47	5.23

Note. SA = Social anxiety; PA = Positive affect; ACP = Acceptance of positive emotions; SP = Suppression of positive emotions. Path coefficients (*b*) are unstandardized. Significant effects are in bold.

Table 2*Fixed Direct and Indirect Effects of the Model Examining Negative Affect*

<i>Between-person effects</i>					
Outcome	Predictors	<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
<i>Acceptance of NA</i>	SA	-12.39	4.18	-20.89	-4.58
<i>Suppression of NA</i>	SA	8.11	3.71	0.86	15.16
<i>Rumination</i>	SA	10.37	2.93	4.00	15.98
<i>NA (between)</i>	SA	4.44	1.48	1.70	7.46
	ACN	0.06	0.06	-0.05	0.18
	SN	0.12	0.08	-0.05	0.27
	RUM	0.24	0.08	0.06	0.42
<i>Within-person effects</i>					
Outcome	Predictors	<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
<i>Acceptance of NA</i>	Intercept	57.31	3.70	49.96	65.41
	Time	0.07	0.03	0.01	0.13
<i>Suppression of NA</i>	Intercept	38.77	3.26	31.98	44.64
	Time	-0.07	0.04	-0.14	-0.004
<i>Rumination</i>	Intercept	28.05	2.64	23.01	32.87
	Time	-0.16	0.04	-0.23	-0.10
<i>NA (within)</i>	Time	0.00	0.03	-0.06	0.05
	Intercept	13.74	5.91	2.36	25.00
	ACN	-0.09	0.03	-0.17	-0.02
	SN	0.07	0.03	0.01	0.12
	RUM	0.31	0.05	0.22	0.43
<i>Between-person indirect effects</i>					
Path	<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals		
			LL	UL	
SA → CAN → NA	-0.67	0.87	-2.62	0.75	
SA → SN → NA	0.76	0.86	-0.43	2.1	
SA → RUM → NA	2.48	1.15	0.50	5.00	

Note. SA = Social anxiety; NA = Negative affect; ACN = Acceptance of negative emotions; SN = Suppression of negative emotions; RUM = Rumination. Path coefficients (*b*) are unstandardized. Significant effects are in bold.

Controlling for Depressive Symptoms

In the PA model, depressive symptoms were linked with lower PA ($b = -8.50$, 95% CI $[-14.43, -0.71]$) but did not predict emotion-regulation strategies. The direct effect of social anxiety on acceptance and the indirect effect on PA remained significant.

In the NA model, the effects of social anxiety on acceptance of negative emotions and rumination remained significant, though its effects on suppression were no longer significant.. Social anxiety continued to predict NA, while depressive symptoms did not significantly affect the mediators or NA. Additionally, the indirect effect of social anxiety on negative affect through rumination was not significant after controlling for depressive symptoms, albeit by a very small margin ($b = 1.46$, 95% CI $[-0.02, 4.34]$). The relatively strong correlation between social anxiety and depressive symptoms ($r = .60$) raised concerns about multicollinearity, potentially weakening the individual contributions of each predictor and making it challenging to disentangle their unique effects. Tables E3 and E4 in the supplemental materials (ESM 1) provide the full results.

Discussion

This study examined the mediating role of three emotion-regulation strategies – acceptance, suppression, and rumination – in the link between social anxiety and positive and negative affect in adolescents’ daily lives. We measured social anxiety symptoms as a trait, while we assessed affect and emotion regulation at the state level using EMA through multiple daily assessments. We assessed state-level variables (i.e., emotion regulation and affect) independently of specific social situations or events. Thus, they reflect general tendencies in the use of these three emotion-regulation strategies across both social and nonsocial contexts, while affect reflects momentary emotional states without being tied to a particular situation. Variance of these was decomposed into within-person and between-person components, with the latter used for mediation analyses. Thus, our findings primarily

reflect between-person differences and capture habitual patterns in adolescents' daily emotion regulation and daily affect.

First, we observed a negative effect of social anxiety symptoms on acceptance of positive emotions, which aligns with research showing that socially anxious individuals disqualify positive experiences (Alden et al., 2008; Weeks, 2010), reducing positive affect and reinforcing negative interpretations (Everaert et al., 2020). This nonacceptance predicted lower PA and mediated the relationship between social anxiety and reduced PA. While social anxiety did not directly affect PA, these findings indicate that nonacceptance plays a key role in the positivity impairment seen in socially anxious individuals, who may struggle to experience or maintain positive emotions, not only because they suppress them, but because they struggle to accept them in the first place. Importantly, the indirect effect of social anxiety on PA through the nonacceptance of positive emotions remained significant after controlling for depression. This finding suggests that the impact of social anxiety on positivity impairment operates beyond depressive symptoms, highlighting the unique role of nonacceptance in this context. We also found a significant relationship between social anxiety symptoms and difficulties accepting negative emotions, which is consistent with research indicating that socially anxious individuals view these emotions as inherently negative and uncontrollable (De Castella et al., 2018).

Second, regarding suppression, we found that social anxiety symptoms are linked to the suppression of negative emotions, which is consistent with our hypothesis and prior research (Dryman & Heimberg, 2018). However, contrary to our expectations, they were not associated with the suppression of positive emotions (Kashdan & Steger, 2006). One interpretation of this finding is that negative emotionality may be more pervasive for socially anxious adolescents (Cracco et al., 2017), making suppression a more frequent and salient coping mechanism for managing NA than PA. Additionally, since socially anxious

individuals often disqualify positive outcomes (Weeks, 2010), they may not report suppressing positive emotions because they fail to recognize them. Some studies suggest that this disqualification may transform positive emotions into negative experiences before they can be fully felt or suppressed (Everaert et al., 2020).

Finally, our findings confirmed the expected link between social anxiety symptoms and rumination (Schmitz et al., 2011). Social anxiety directly affected NA, consistent with the tripartite model of anxiety and depression (Clark & Watson, 1991), and this effect was primarily mediated by rumination. The central role of rumination in this link is unsurprising, as repetitive negative thinking is a key feature of social anxiety: Individuals who fear social evaluation often ruminate on perceived failures or inadequacies in social interactions, reinforcing negative self-perceptions and increasing NA (Brozovich & Heimberg, 2008).

Regarding the within-person findings, independent of social anxiety or depression, our results align with previous research on various emotion-regulation strategies and their momentary effects. Specifically, acceptance was associated with reduced negative affect and increased positive affect (Ford et al., 2018; Lindsay & Creswell, 2017). Conversely, suppression in our data demonstrated the commonly observed paradoxical effect of reducing positive affect while increasing negative affect in the moment (Dryman & Heimberg, 2018). Lastly, we found that rumination was linked to higher levels of negative affect, which is consistent with existing literature (McLaughlin et al., 2007).

Implications for Research and Practice

Our findings demonstrate that social anxiety is associated with lower acceptance of both positive and negative emotions, increased suppression of negative emotions, and greater rumination in adolescence. This developmental stage is characterized by heightened emotional reactivity, difficulties with regulating emotions (Cracco et al., 2017), and an increased fear of social evaluation (Westenberg et al., 2007), creating a fertile environment

for the development of social anxiety disorder. These insights highlight the importance of addressing emotion-regulation deficits in adolescence to disrupt chronification processes and prevent maladaptive strategies from becoming entrenched (Golombek et al., 2020). In fact, targeting emotion regulation in adolescence has been shown to be beneficial in both clinical and healthy populations, reducing symptoms and buffering the onset of psychological disorders (Saccaro et al., 2024).

Programs aimed at reducing social anxiety in youth have demonstrated success both at the individual level (e.g., Cognitive-Behavioral Therapy; Scaini et al., 2016) and the institutional level (e.g., Skills for Social and Academic Success [SSAS]; Fisher et al., 2004). Such interventions typically focus on psychoeducation, cognitive restructuring, and the regulation of fear and anxiety, among other therapeutic approaches (Melfsen & Warnke, 2009). While these components are undeniably important, our findings, along with recent research on the positivity impairment in social anxiety, suggest that interventions that neglect positive emotions may not be addressing the full spectrum of emotional difficulties faced by socially anxious adolescents. Notably, Weeks and colleagues (2020) showed that interventions enhancing the acceptance of positive social outcomes (e.g., engaging in self-promotion, accepting compliments) reduced fears of positive evaluation and lowered overall social anxiety symptoms. By addressing this key, yet previously neglected, component of social anxiety, interventions may become better suited to meet the needs of affected individuals. Moreover, teachers participating in school-based mental health programs (e.g., SSAS; Fisher et al., 2004) could learn how social anxiety affects their students' ability to embrace positive emotions, even after receiving positive feedback. Greater awareness could help create more supportive classrooms, fostering emotional well-being and reducing the risk of persistent social anxiety symptoms.

Strengths and Limitations

The EMA methodology employed in this study moves beyond the limitations of cross-sectional designs, offering real-world validation for previously established associations between social anxiety and emotion regulation (Shiffman et al., 2008). By examining these processes in real-time, we gain insights that reflect daily emotional experiences more accurately. By disentangling between- and within-person associations, we determined not only the average effects of social anxiety symptoms on participants' emotion regulation and affect, but also the individual fluctuations in these associations over time. However, studying emotion regulation in everyday life presents its own challenges: McMahon and Naragon-Gainey (2020) caution that the discriminant validity of emotion-regulation items in daily life is not always ensured, and that associations between daily and trait measures can vary across samples. Because most prior research is based on trait measures, it is important to recognize the limitations in comparing these with daily measures. With the increasing use of EMA in recent studies, it becomes essential to validate scales that measure emotion regulation in daily life.

While we did assess the effectiveness of emotion-regulation strategies by linking them to momentary affect following their use, we did not account for other contextual factors that could influence these processes. As Gross (2015) and Aldao et al. (2015) highlight, the effectiveness of emotion regulation goes beyond simply reducing NA or increasing PA. Categorizing strategies as purely adaptive or maladaptive oversimplifies their complexity, as certain strategies may be helpful in the short term but reinforce problematic behaviors over time, and vice versa. For instance, Westenberg (2007) postulated that fears of social evaluation coincide with differential and sexual maturation. Some have theorized that these fears serve as regulatory forces, protecting against conflict with others and potential group exclusion (Fredrick & Luebbe, 2020). Additionally, adolescence is marked by an increased

ability to understand both one's own and others' emotions and reflect on personal perceptions and evaluations (Zimmermann & Iwanski, 2014). In light of this, expressive suppression because of concerns about social evaluation could be an adaptive response in certain contexts, such as a school setting, where it might help prevent group exclusion and even increase the likelihood of forming romantic relationships – especially given the nonclinical nature of our sample. This is reflected in our finding that, while expressive suppression did not predict overall positive affect, it appeared to momentarily dampen positive affect and increase negative affect. Future research should explore how broader contextual factors impact the effectiveness of emotion-regulation strategies.

Furthermore, we assessed PA and NA using single-item measures. While these are reliable for analyses investigating momentary affect (Cloos et al., 2023), we can draw no conclusions regarding emotion-specific regulation. Although social anxiety may relate differently to emotions like pride, joy, or contentment (Gilboa-Schechtman et al., 2014), our findings do not capture these nuances.

Another limitation of this study concerns the gender distribution of our sample, with 75% of participants identifying as female. This limits the generalizability of our results to a broader, more gender-diverse population. Additionally, this study relied on a convenience sample, which presents challenges related to selection bias and the representativeness of the sample (Chandler & Shapiro, 2016). Although the prevalence of social anxiety symptoms in our sample was high, no diagnostic information was collected by a clinical expert, which restricts the ability to make meaningful group comparisons based on clinical status.

Additionally, the high drop-out rate of 51.55% warrants critical consideration. We found no significant differences between completers and attriters in depression, social anxiety, or most sociodemographic variables. However, the results of chi-square tests

indicated that nonnative German speakers were more likely to drop out compared to native German speakers.

Lastly, as this study is part of a larger ongoing project, the sample size reported here differs from the preregistered sample size for the overall project ($N = 80$). While this deviation may have implications for statistical power, the sample size remained sufficient to detect small to moderate effects at the within-person level and moderate to large effects at the between-person level. A robust body of literature reporting similar effect sizes supports these findings (e.g., Boemo et al., 2022; Golombek et al., 2020) and highlights the role of emotion dysregulation in social anxiety and its associations with impaired daily affect.

Conclusion

This study highlights the complex role of different emotion-regulation strategies – i.e., acceptance, suppression, and rumination – in the association between social anxiety and daily affect in adolescents. The findings suggest that nonacceptance of positive emotions plays a key role in reducing positive affect, while rumination significantly mediates the link between social anxiety and negative affect. These insights underscore the importance of addressing both positive and negative emotional experiences in interventions for young people who suffer from social anxiety. Future research should further explore the broader contextual factors that influence emotion regulation and refine treatment approaches targeting these deficits.

Statements

Ethics

The Ethics Committee of the University of Vienna approved the protocol of this study before the start of data collection (protocol number 01076, 28 November 2023).

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Conflict of Interest

The authors declare none.

Author Contributions (CRediT)

Conceptualization: ATF, MZ; Data curation: ATF, CS; Formal analysis: ATF, DK; Funding acquisition: ATF, MZ; Investigation: ATF, CS; Methodology: ATF, CS; Project administration: ATF, MZ; Resources: MZ; Software: ATF, MZ; Supervision: MZ; Validation: ATF; Visualization: ATF; Writing – original draft: ATF; Writing – review and editing: ATF, DK, CS, MZ.

Open Science and Supplementary Material

Open Data and Open Code: The information needed to reproduce all of the reported results is available at <https://osf.io/9qhw3/>. Preregistration and Analysis Plan: This study was preregistered at <https://osf.io/srvj3>. The electronic supplementary material is available with the online version of this article at <https://doi.org/10.1026/0942-5403/a000492> and in the annex of this thesis.

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Master's Theses

Müller, C. L. F. (2024). *Bitte keine Kritik! Eine elektronische Tagebuchstudie zur sozialen Ängstlichkeit, Rumination und Kritikerhalt bei Jugendlichen*. [Please, no criticism! An electronic diary study on social anxiety, rumination, and the receipt of criticism among adolescents.] [Unpublished master's thesis]. University of Vienna.

Schilling, F. (2025) *Rumination und Depressivität im Alltag von Jugendlichen: Die Rolle des sozialen Kontexts – eine Ecological Momentary Assessment Studie*. [Rumination and depressive symptoms in adolescents' everyday lives: The role of the social context – an ecological momentary assessment study.] [Unpublished master's thesis]. University of Vienna.

Schleßling, L. (2023). *Angst vor Bewertung und Emotionssuppression bei Jugendlichen: Eine Elektronische Tagebuchstudie*. [Fear of evaluation and emotion suppression in adolescents: An electronic diary study.] [Unpublished master's thesis]. University of Vienna.

Schneckenreiter, C. (2024). *Gefangen im Grau: Eine digitale Tagebuchstudie zur Untersuchung der sozialen Angstsymptome, des positiven Affektss und der Emotionsregulation von Jugendlichen*. [Trapped in gray: A digital diary study examining adolescents' social anxiety symptoms, positive affect, and emotion regulation] [Unpublished master's thesis]. University of Vienna.

Abbreviations

ACN = acceptance of negative emotions; ACP = acceptance of positive emotions;
EMA = ecological momentary assessment; NA = negative affect; PA = positive affect; PHQ =

Patient Health Questionnaire; RUM = rumination; SA = social anxiety; SN = suppression of negative emotions; SP = suppression of positive emotions; SPIN = Social Phobia Inventory

Chapter 4

Fears of Evaluation and Emotion Regulation in Adolescents' Daily Life – An Ecological Momentary Assessment (EMA) Study

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Abstract

Background: Adolescents frequently experience heightened social fears, including *fear of positive evaluation* (FPE), which has recently been recognized as a distinct contributor to social anxiety and emotion regulation difficulties. However, little is known about how these fears unfold in daily life. This study investigated how FPE and *fear of negative evaluation* (FNE) relate to affect, reactions to positive feedback, and emotion regulation in adolescents' everyday experiences. **Methods:** Eighty adolescents from the general population (14 – 18 years) completed baseline measures of social anxiety, FPE, and FNE, followed by a 14-day ecological momentary assessment with 4 daily assessments ($k = 3,423$). Participants reported on praise experiences, affect, and the emotion regulation strategies acceptance, suppression, and rumination. **Results:** Multilevel structural equation models showed that FPE was associated with greater negative affect in general, as well as increased negative affect stemming from positive feedback. It also predicted greater use of suppression of positive and negative emotions, reduced acceptance of positive and negative emotions, as well as rumination. Acceptance of positive and negative emotions mediated the effects of FPE on positive affect, whereas suppression of positive emotions and rumination mediated its effects on negative affect. After controlling for FPE, FNE did not emerge as a significant predictor of affect or emotion regulation difficulties. **Conclusions:** FPE plays a distinct and pervasive role in adolescents' affective and regulatory functioning. Addressing FPE in assessment and treatment may be essential for improving outcomes in socially anxious youth.

Keywords: fear of positive evaluation, emotion regulation, social anxiety, adolescence, ecological momentary assessment

Theoretical Background

Adolescence is a particularly sensitive developmental period during which many individuals report heightened social fears, mainly revolving around the fear of being perceived negatively by others (Ollendick et al., 2014). However, in recent years of research, another form of interpersonal fear has gained increasing recognition, namely the *fear of positive evaluation* (FPE), which refers to feelings of discomfort arising in response to positive feedback, such as praise or compliments (Weeks et al., 2008). While such fears are generally considered part of normative development not necessarily tied to negative consequences for most (Ollendick et al., 2014), they can become excessive for some, with recent research linking them to a plethora of adverse social and emotional outcomes (Fredrick & Luebbe, 2020).

At the same time, adolescence is also marked by emerging difficulties in *emotion regulation* (ER) (Cracco et al., 2017), which have been identified as both potential risk factors and consequences of social anxiety (Schneider et al., 2016). Furthermore, some researchers have indicated that evaluation fears may drive certain emotion regulation difficulties, such as suppression (Jazaieri et al., 2015), acceptance (Mathews et al., 2014), and rumination (Brozovich & Heimberg, 2008), with some recent studies corroborating this notion (Tsarpalis-Fragkoulidis et al., 2022, 2024). Yet, these constructs and their interplay remain largely understudied, especially concerning their manifestation and effects in adolescents' day-to-day experiences. This study aimed to examine how fears of evaluation are linked to adolescents' emotional responses to positive feedback, affective states, and difficulties in emotion regulation as they play out in real-world settings.

Fears of Evaluation

FNE is characterized by distress over potential negative judgments, avoidance of evaluative situations, and anticipation of being judged unfavourably by others (Leary, 1983).

As such, it has long been considered a core cognitive process and a cardinal symptom of social anxiety (APA, 2013). In adolescents, these fears often surface in situations like public speaking or interacting with peers, and have been linked to increased loneliness, decreased self-esteem (Geukens et al., 2022; Ollendick et al., 2014), reduced popularity, and greater avoidance of social situations (Henricks et al., 2023).

That said, recent research has consistently highlighted the importance of FPE in social anxiety, suggesting it may play an equally significant role as FNE (Cook et al., 2022; Fredrick & Luebbe, 2020; Reichenberger & Blechert, 2018). FPE is associated with various facets of social anxiety, including increased negative and reduced positive affect during social interactions, heightened discomfort and arousal in response to positive feedback in adults (Fredrick & Luebbe, 2020), as well as safety-seeking behaviors and anxious arousal during social interactions in adolescents (Karp et al., 2018; Szollos et al., 2019). Individuals high in FPE are also more likely to fear social backlash due to positive impressions and to discount or distrust positive feedback (Weeks et al., 2015). In addition, a longitudinal study identified FPE as a predictor of anticipatory anhedonia, denoted as an attenuated capacity to experience enjoyment (Jordan et al., 2018). These patterns, marked by discomfort with positive attention and diminished positive affect, have led researchers to propose that FPE may play a key role in social anxiety's positivity impairment (Gilboa-Schechtman et al., 2014; Reichenberger & Blechert, 2018). Positivity impairment is a frequently observed phenomenon in socially anxious individuals and encompasses a range of difficulties, including heightened negative affect, diminished positive affect, blunted reactivity to positive events, and difficulties regulating positive emotions, among others (Gilboa-Schechtman 2014).

Thus, fear of evaluation and the associated tendency to avoid drawing attention may severely influence how adolescents feel and behave in social situations and how they manage their emotional experiences. As socially anxious individuals demonstrate deficits in a variety

of emotion regulation-related processes (Sackl-Pammer et al., 2019), this line of research is particularly important for understanding the phenomenology and consequences of social fears in adolescence. Specifically, three emotion regulation strategies have been identified as particularly important in the context of fears of evaluation, namely suppression, acceptance, and rumination.

Fears of Evaluation and Emotion Regulation

Among the most well-established emotion regulation difficulties in social anxiety is expressive suppression, defined as the deliberate inhibition of outward emotional expression (Gross, 2015). Research has consistently shown that this strategy is frequently employed by socially anxious adolescents (Golombek et al., 2020), presumably in an attempt to avoid becoming the focus of evaluation (Jazaieri et al., 2015). For instance, socially anxious individuals may suppress negative emotions to avoid appearing weak and suppress positive emotions to avoid standing out. Interestingly, while suppressing negative emotions often fails to reduce distress and may even exacerbate it (Gross, 2015), the suppression of positive emotions tends to dampen their intensity, leading to fewer positive emotions and experiences (Farmer & Kashdan, 2012). Taken together, these findings suggest that social anxiety is associated with a generalized tendency to suppress emotional expression, whether positive or negative, which may ultimately have detrimental effects to socially anxious individuals' overall emotionality.

Furthermore, socially anxious adolescents often struggle with tolerating negative emotions (Keil et al., 2017; Mathews et al., 2014). These difficulties align with the notion that social anxiety is marked by experiential avoidance, i.e., the tendency to avoid unwanted internal experiences (Kashdan et al., 2014), with emotions often viewed as threatening, uncontrollable, or signs of weakness (Spokas et al., 2009). Importantly, this discomfort extends beyond negative emotionality; socially anxious individuals have also been shown to

struggle with accepting positive emotions, effectively dampening them (Kashdan & Breen, 2008; Weeks & Zoccola, 2015), which suggests that social anxiety is characterized by a broader uneasiness with emotional experiences, regardless of valence. It has been theorized that this reluctance to accept emotions may be driven by fears of evaluation (Eisner et al., 2009; Mathews et al., 2014), with FNE potentially linked to avoidance of emotional vulnerability and FPE contributing to the discomfort elicited by positive emotional experiences. Considering that non-judgmental emotional acceptance is associated with more adaptive affective functioning (Campbell-Sills et al., 2006), this may serve as a mechanism underlying the affective deficits observed in social anxiety.

Additionally, in the anticipation or aftermath of social situations, socially anxious individuals often experience difficulties disengaging from negative thoughts and feelings related to the event, a process that is commonly referred to as rumination, or pre- and post-event processing (Brozovich & Heimberg, 2008). It is characterized by a repetitive focus on future or past social interactions and perceived personal inadequacies (Brozovich & Heimberg, 2008), often with the aim of identifying and analyzing one's shortcomings to avoid future negative evaluation (Yoshinaga et al., 2020). In this context, FNE may heighten attentional focus on possible social failures, leading to a persistent preoccupation with signs of inadequacy during social interactions. On the other hand, FPE may lead individuals to discount or disqualify positive aspects of these interactions, misinterpret positive feedback or positive social cues while focusing on the negative ones (Dryman & Heimberg, 2015), which can lead to increased physiological arousal that is in turn perceived as stressful (Lipton et al., 2020). As such, rumination may constitute a byproduct of evaluation fears, reinforcing negative self-perceptions, dampening positive and maintaining negative affect (Everaert et al., 2020).

Aims and Research Questions

In sum, fears of evaluation appear to play a central role in how individuals experience and respond to social situations (Weeks & Zoccola, 2015). These fears influence both positive and negative affect (Reichenberger & Blechert, 2018) and may shape the use of emotion regulation strategies (Dryman & Heimberg, 2015; Huang & Wang, 2024; Jazaieri et al., 2015), ultimately contributing to the broader emotional difficulties observed in socially anxious adolescents. The aim of the present study was to examine these processes in adolescents' daily lives using *ecological momentary assessment* (EMA), a method that allows for capturing real-time fluctuations in affect and emotion regulation. Given the emerging literature on positivity impairment as a central feature of social anxiety (Gilboa-Schechtman et al., 2014), this study focused particularly on emotional responses to positive feedback, alongside general patterns of positive and negative affect and emotion regulation.

Our preregistered hypotheses were as follows: First, we expected that both social anxiety and FPE would be associated with elevated negative and reduced positive affect across the day (Hypothesis 1). Second, we predicted that higher levels of social anxiety and FPE would relate to a reduced frequency of positive feedback in everyday life (Hypothesis 2). Third, we assumed that both fears of evaluation would moderate adolescents' affective responses to positive feedback (Hypotheses 3 and 4). Next, we hypothesized that these fears would be associated with emotion regulation of positive and negative emotions following positive feedback, specifically suppression, acceptance, and rumination (Hypotheses 5 and 6). Finally, we expanded upon the last preregistered hypothesis, which aimed to test the mediating effects of emotion regulation of positive and negative emotions between social anxiety and daily affect, and which has been presented in a separate paper (Tsarपालis-Fragkoulidis et al., 2025); the present study sought to assess whether these strategies would mediate the link between fears of evaluation and overall affect in adolescents' daily lives (Hypotheses 7 and 8).

Method

Preregistration

The preregistration for this research project is available at <https://osf.io/srvj3>. As recommended by Willroth and Atherton (2024), we disclose a deviation from the preregistered analytic approach: We had initially planned to analyze our data using traditional multilevel modeling. However, based on new knowledge gained between preregistration and data analysis, we opted for a multilevel structural equation modeling approach. This approach allows simultaneous testing of multiple outcome variables and corrects for bias stemming from differing numbers of assessments per participant by creating latent variables (Sadikaj et al., 2021). More details are provided in the Data Analysis section.

Sample

As denoted in our preregistration, we aimed for a sample size of 80 participants, drawing on previous work in this line of research (e.g., Reichenberger et al., 2018), as well as recommendations by Bolger et al. (2013) and Mathieu et al. (2012). Thus, a total of 80 adolescents aged 14 to 18 years ($M = 16.1$ years, $SD = 1.00$) from the general population of Austria ($n = 50$; 62.5%), Germany ($n = 29$; 36.3%), and Switzerland ($n = 1$; 1.3%) participated in the study. The majority identified as female ($n = 51$; 63.7%), while 28 (35.0%) identified as male and one (1.3%) as other. The sample was largely German speaking ($n = 73$; 96.3%), though a minority ($n = 7$; 8.8%) reported other native languages, including Serbian, Hungarian, Persian, Greek, and Bosnian. Regarding education, 46 participants (57.5%) attended high school, 14 (17.5%) vocational school, four (5.0%) middle school, and 16 (20.0%) reported other educational settings such as fashion schools, international schools, or home schooling. Inclusion criteria included being within the target age range, sufficient German language proficiency (self-reported), active school attendance, and access to a smartphone with stable internet connectivity usable during school breaks. Psychological

screening indicated substantial levels of emotional distress, with 43 participants (53.8%) scoring above the clinical threshold for social anxiety on the Social Phobia Inventory (Von Consbruch et al., 2016), based on adolescent norms (cut-off: 24; Ranta et al., 2007). Despite this, only eleven participants (13.8%) reported currently receiving psychiatric or psychotherapeutic care.

Procedure

The study was initially preregistered on February 27, 2023, and was updated to the current design on November 22, 2023 (<https://osf.io/srvj3>). Data collected under the initial preregistration used different items and variables and were not included in the analyses reported here. The data analyzed in this paper were collected under the revised design between December 1, 2023 and 3 March 3, 2025, with a summer break from June 30 to September 30, 2024, via the SoSci Survey platform (Leiner, 2024). Participants were recruited through multiple channels, including social media, local schools and youth organizations, and follow-up invitations to adolescents from previous studies who had consented to future contact. Recruitment materials (flyers and online posts) included a QR code or direct link to the study portal, where individuals received detailed information about the study aims, procedures, and data protection measures.

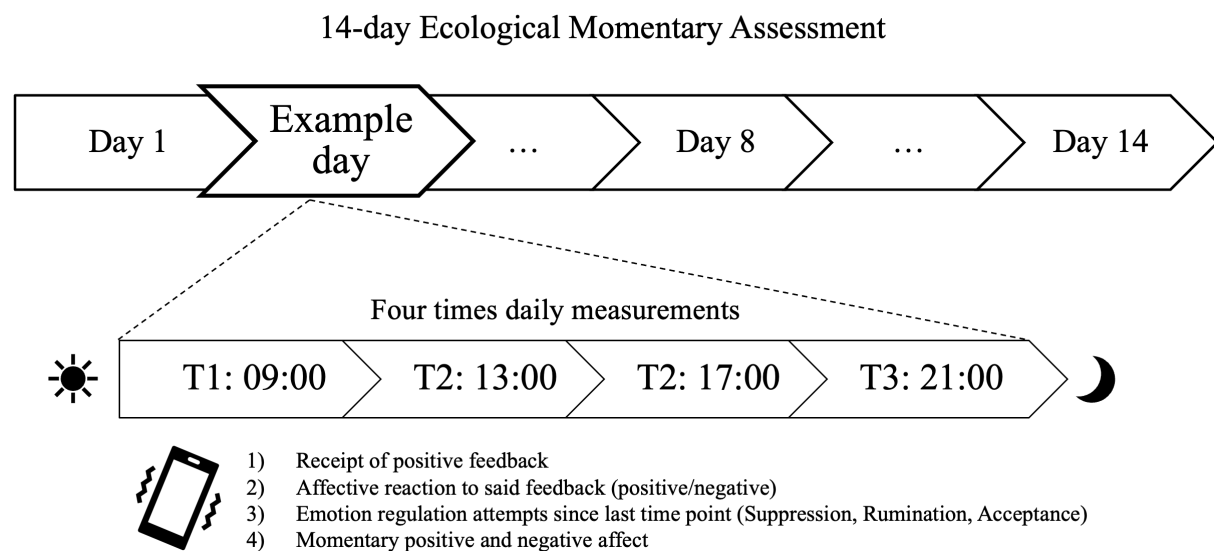
Informed consent was obtained electronically following an eligibility screening. Participants were informed that they could withdraw from the study at any time without negative consequences. Participants then completed a 10-minute baseline questionnaire and a brief practice survey introducing the EMA format. The practice session included examples and explanations of praise events and emotion regulation strategies to ensure conceptual clarity. The 14-day EMA phase began the following day. Participants received four daily surveys via E-mail (9:00, 13:00, 17:00, and 21:00), which took approximately 1–2 minutes to complete and had to be completed within a two-hour response window to be considered

valid. The amount of financial compensation depended on the participant's compliance rate in the EMA study: EUR 20 for $\geq 50\%$ completion, EUR 30 for $\geq 75\%$, and EUR 40 for $\geq 90\%$.

The EMA study procedure is depicted in Figure 1.

Figure 1

Study Procedure



Data Exclusion, Attrition Analysis, and Missing Data

Of the 177 individuals who began the baseline survey, 17 were excluded for not reaching the last page, which was required to start the EMA phase and was considered as withdrawal of consent. Of the remaining 160, 30 were excluded for low data integrity: 20 completed the baseline too quickly (< 5 minutes), two showed duplicate entries, one responded with “0” to all EMA items, and seven submitted diary entries in bulk outside the intended time windows. Four participants who completed more than 28 assessments, few of which were outside the acceptable time window, were retained. This left 130 participants, from whom a final analytic sample of 80 adolescents was selected based on $\geq 50\%$ EMA compliance (≥ 28 completed assessments), as preregistered, resulting in a total of 3,423 data points.

We examined differences between EMA completers (≥ 28 completed assessments)

and non-completers (< 28 completed assessments) using independent samples *t*-tests for numerical baseline variables (e.g., social anxiety, FPE, FNE, age) and chi-square tests for categorical variables. Native language and gender significantly predicted attrition, indicating that participants whose native language was not German and female participants were more likely to drop out of the study. These effects were supported by linear regression analyses, where both native language and gender significantly predicted the number of completed assessments. No other baseline characteristics were significantly associated with attrition.

Concerning missing data, two of the daily questionnaire items relevant to the analyses in this study were conditional on responses to previous items and therefore missing if the filter conditions were not met. Specifically, if participants reported not receiving any positive feedback, the subsequent items assessing positive and negative affect in response to such feedback were omitted. Consequently, Hypotheses 5 and 6, which included these items as predictors of emotion regulation strategies, were tested with data stemming only from occasions that included positive feedback ($k = 1,529$ instances). Aside from this, item-level missing data were minimal due to a built-in confirmation system that prompted to click on a check box before skipping items, resulting in 99.5% complete data rows.

The overall compliance rate among completers was 76%. To test for systematically varying numbers of completed assessments among the 80 EMA completers, we recomputed the aforementioned regression analyses to test whether compliance was associated with sociodemographic or study variables. Only native language significantly predicted the number of completed assessments, with non-native German speakers completing fewer assessments. A more detailed explanation of the participant exclusion procedure, as well as full results of the attrition and missing data analyses are available in the Additional File 1.

Measures

Baseline Measures

Social Anxiety. Social anxiety was assessed using the German version of the Social Phobia Inventory (SPIN; Connor et al., 2000; German version by Von Consbruch et al., 2016), a 17-item self-report measure capturing three key domains of social anxiety: fear of social situations, avoidance behaviors, and physiological symptoms. Participants were asked to rate how much each statement reflected their experiences over the past two weeks using a 5-point Likert scale ranging from 0 = *not at all* to 4 = *very strongly*, with higher scores indicating greater social anxiety. For the purpose of analysis, mean scores were computed. The SPIN demonstrated excellent internal consistency in the present sample (Cronbach's $\alpha = .93$). The scale has been validated in large German samples and is suitable for use with adolescents aged 14 years and older (Ranta et al., 2007; Von Consbruch et al., 2016).

Fear of Positive Evaluation. Fear of positive evaluation was measured using the Fear of Positive Evaluation Scale (FPES; Weeks et al., 2008; German version by Schwarz et al., 2016). The FPES includes 10 items capturing discomfort or anxiety in response to receiving positive feedback or praise (e.g., "I am uncomfortable exhibiting my talents to others, even if I think my talents will impress them"). Participants responded on a scale from 0 = *not at all true* to 9 = *very true*. Following the original recommendations, the total score was calculated based on 8 of the 10 items. The FPES demonstrated good internal consistency in this sample (Cronbach's $\alpha = .86$). Although not originally designed for adolescents, the scale has been successfully applied in youth-focused research (e.g., Karp et al., 2018; Vagos et al., 2016; Fredrick & Luebbe, 2021).

Fear of Negative Evaluation. FNE was assessed using the Brief Fear of Negative Evaluation Scale (Leary, 1983; German version by Reichenberger et al., 2016). This 12-item scale assesses the fear of being judged or disapproved of by others. Respondents rated each statement on a 5-point Likert scale from 1 = *not at all characteristic of me* to 5 = *absolutely characteristic of me*, with higher scores reflecting greater fear of negative evaluation. The

scale showed excellent reliability in this study (Cronbach's $\alpha = .94$). While the BFNE was originally developed for adults, it has been effectively employed in research with adolescent populations (e.g., Fredrick & Luebbe, 2021).

Ecological Momentary Assessment

Throughout the EMA phase, participants reported on recent experiences of receiving positive feedback (hereinafter referred to also as praise and used interchangeably throughout). They first indicated how strongly they had been praised since the last EMA time point or since waking (e.g., “Since the last time point/since waking, how strongly were you praised?”), rating the intensity on a 10-point Likert scale (0 = *not at all* to 9 = *very strongly*). In addition to praise intensity, a variable reflecting praise frequency was created by dichotomizing praise instances (0 = *no praise*, 1 = *praise event*) and aggregating them per participant across the study period.

If positive feedback was reported, participants rated their emotional responses using visual analogue scales (VAS) ranging from 0 = *not at all* to 100 = *very much* (e.g., “To what extent did you experience positive/negative emotions as a result?”). Praise/positive feedback was defined as a verbal (spoken or written) positive remark about the participant, such as a compliment on appearance, performance, or personality. Nonverbal cues (e.g., likes or emojis) were not considered in the current study. These definitions were provided during the practice session participants completed to familiarize themselves with the criteria, thus ensuring conceptual clarity.

Momentary positive affect (PA) and negative affect (NA) were assessed at each time point using single-item VAS questions with no anchors adapted from Cloos et al. (2023), ranging from 0 = *not at all* to 100 = *very much*, for example: “To what extent are you experiencing positive/negative emotions right now?” Single-item measures have been shown to yield sufficient explanatory power in such contexts, especially when repeated frequently

over time (Cloos et al., 2023).

Additionally, participants reported on emotion regulation strategies used since the last time point or since waking. As with the items assessing affect, emotion regulation was measured with five items rated on a VAS (0–100), partly self-developed and partly adapted from McMahon and Naragon-Gainey (2019), covering both the regulation of positive and negative emotions. Two items assessed acceptance and suppression of positive emotions, while three assessed acceptance, suppression, and rumination in response to negative emotions, using the item “Since the last time point/since waking, to what extent did the following statements apply to you regarding your positive/negative emotion.” Acceptance was assessed with the item “I accepted how I felt without judging myself,” while suppression was captured through the item “I tried not to show my feelings outwardly.” Rumination was assessed in relation to negative emotions only, using the item “I couldn’t stop thinking about my feelings (how bad I felt or why I felt this way).” Definitions followed established frameworks from the mindfulness literature, the process model of emotion regulation, and the response styles theory: Specifically, acceptance was understood as open, nonjudgmental acceptance of emotions (Lindsay & Creswell, 2017), suppression as the inhibition of emotional expression (Gross, 2015); and rumination as a repetitive, maladaptive focus on the causes and consequences of negative emotional states (McLaughlin & Nolen-Hoeksema, 2011). A table listing all EMA items, translated into English, is available at <https://osf.io/yhn6c>.

Data Analysis

We conducted our analyses within an intensive longitudinal framework, where daily repeated assessments (Level 1) were nested within individuals (Level 2). To account for the data non-independence among observations, we used multilevel structural equation modeling, which adjusts for clustered data. Descriptive statistics, sample characteristics, the calculation

of intraclass correlation coefficients (ICC) for all endogenous variables, as well as the multiple linear regression model (Hypothesis 2) were carried out in SPSS 30 (IBM Corp., 2024) while multivariate models were calculated using multilevel structural equation modeling in Mplus 8.5 (Muthén & Muthén, 2017) with Bayesian estimation. This approach allowed us to separate within-person fluctuations from between-person differences by implicitly decomposing observed variables into latent components at both levels. This approach accounts for differences in the number of data points provided by each participant, thus enhancing the accuracy of between-person estimates and reducing bias (Sadikaj et al., 2021). In cases where convergence was difficult to achieve (i.e., Hypotheses 5 and 6), we opted for an explicit decomposition of variance, which involved centering Level 1 variables around the person mean to isolate within-person variance and using person means to model between-person effects. Significance was determined by whether the 95% credible intervals excluded zero. Given the potential effects of gender on emotion regulation (Sanchis-Sanchis et al., 2020), we statistically controlled for gender in all models involving these variables.

Results

Table 1 shows means, standard deviations, ICCs for the repeated measures, and bivariate intercorrelations between all study variables. For the purpose of this analysis, person means were calculated for Level 1 variables. It is worth noting that a closer inspection of the distribution of the two fears of evaluation scores revealed expected yet noteworthy patterns: FNE showed a slightly left-skewed distribution, whereas FPE displayed a more right-skewed yet approximately normal distribution, suggesting that fears of being negatively evaluated were relatively more pronounced in our sample

Table 1

Means, Standard Deviations, ICCs, and Intercorrelations of Study Variables at the Between-Person Level (N = 80)

Variable	<i>M (SD)</i>	ICC	1	2	3	4	5	6	7	8	9	10	11	12
1. SA	1.54 (0.93)	-	-											
2. FPE	3.44 (2.03)	-	.58**	-										
3. FNE	3.52 (1.00)	-	.66**	.51**	-									
4. Praise	2.96 (1.41)	.26	-.32**	-.13	-.24	-								
5. Praise PA	63.81 (18.25)	.42	-.18	-.22*	-.16	-.22	-							
6. Praise NA	13.53 (11.47)	.34	.17	.52**	.16	-.04	-.30	-						
7. ACP	67.24 (24.02)	.58	-.35**	-.36**	-.20	.16	.44	-.45**	-					
8. ACN	57.69 (24.45)	.55	-.46**	-.41**	-.31**	.16	.35	-.39**	.79**	-				
9. SP	22.13 (17.38)	.41	.34**	.54**	.19	-.05	-.25	.66**	-.56**	-.48**	-			
10. SN	38.49 (21.13)	.38	.48**	.56**	.25*	-.14	-.04	.41**	-.37**	-.61**	.67**	-		
11. RUM	26.90 (19.38)	.42	.44**	.42**	.20	-.05	-.07	.51**	-.47**	-.49**	.59**	.59**	-	
12. MPA	51.50 (15.69)	.32	-.14	-.15	-.07	.22	.57**	-.17	.36**	.31**	-.15	-.05	-.08	-
13. MNA	28.42 (13.46)	.28	.53**	.62**	.33**	-.24*	-.16	.65**	-.37**	-.44**	.64**	.61**	.68**	-.15

Notes. SA = Social anxiety; FPE = Fear of positive evaluation; FNE = Fear of negative evaluation; Praise PA = Positive affect after praise; Praise NA = Negative affect after praise; ACP = Acceptance of positive emotions; ACN = Acceptance of negative emotions; SP = Suppression of positive emotions; SN = Suppression of negative emotions; RUM = Rumination; MPA = Momentary positive affect; MNA = Momentary negative affect. * $p < .05$, ** $p < .05$

Effects on General Affect, Praise Frequency, and Affective Reactions to Praise

First, we investigated whether social anxiety and FPE predicted adolescents' daily positive affect (PA) and negative affect (NA; Hypothesis 1: see full results in Supplementary Table 1 in the Additional File 1). The null models yielded an ICC of .32 for PA and .28 for NA, indicating that 32% and 28% of the variance, respectively, was attributable to between-person differences. Neither social anxiety nor FPE predicted PA. However, both FPE ($b = 3.09$, 95% CI [1.79, 4.40], $\beta = .48$) and social anxiety ($b = 3.64$, 95% CI [0.80, 6.72], $\beta = .25$) predicted NA. Next, we tested whether social anxiety and FPE predicted the frequency of praise events (Hypothesis 2). In a multiple regression model, social anxiety predicted fewer total praise events, $b = -4.96$, $SE = 1.55$, $t(76) = -3.19$, $\beta = -.413$, $p = .002$, $R^2 = .14$. FPE was not related to the self-reported number of praise events after accounting for the effect of social anxiety.

The next model aimed to investigate the moderating role of FPE and FNE on the relationship between perceived praise intensity and the resulting positive and negative affect, respectively (Hypotheses 3 and 4). Null models yielded ICCs of .42 for PA and .34 for NA following praise. At the within-person level, praise was associated with increased PA, indicating that participants experienced higher PA after receiving higher praise since the last time point relative to their own average, aggregated across the entire study period ($b = 4.59$, 95% CI [3.71, 5.51], $\beta = .46$). Praise was not associated with NA. At the between-person level, there were no significant main effects of praise, FPE, or FNE on PA. Similarly, neither FPE nor FNE moderated the relationship between praise and PA. For NA, neither praise nor FNE showed significant main or interaction effects. However, FPE was associated with higher NA following praise, suggesting that adolescents with higher FPE tended to report higher NA after receiving positive feedback ($b = 3.34$, 95% CI [1.74, 4.92], $\beta = .39$). Table 2 contains the full results of this model.

Table 2*Effects of FPE and FNE on Positive and Negative Affect as a Response to Praise*

<i>Between-Person Effects</i>				
Outcome Predictors	<i>b (S.D.)</i>	Std. Est.	95% Credible Intervals	
			LL	UL
Praise PA: $R^2 = .05$				
Intercept	47.16 (4.69)	4.69	37.98	56.61
FPE	-1.34 (1.44)	-0.09	-4.13	1.56
FNE	-1.95 (2.90)	-0.06	-7.68	3.68
Praise	2.31 (1.32)	0.15	-0.27	4.94
FPE x Praise Intensity	-0.06 (0.25)	-0.03	-0.54	0.43
FNE x Praise Intensity	0.27 (0.49)	0.07	-0.68	1.26
Praise NA: $R^2 = .18$				
Intercept	14.08 (2.96)	2.96	8.19	19.84
FPE	3.34 (0.80)	0.39	1.74	4.92
FNE	-1.73 (1.60)	-0.10	-4.95	1.47
Praise	0.08 (0.86)	0.01	-1.61	1.80
FPE x Praise Intensity	-0.08 (0.19)	-0.06	-0.45	0.29
FNE x Praise Intensity	0.13 (0.36)	0.05	-0.56	0.84
<i>Within-Person Effects</i>				
Outcome Predictors	<i>b (S.D.)</i>	Std. Est.	95% Credible Intervals	
			LL	UL
Praise PA: $R^2 = .26$				
Time	0.03 (0.03)	0.02	-0.03	0.09
Praise Intensity	4.59 (0.45)	0.46	3.71	5.51
Praise NA: $R^2 = .08$				
Time	0.01 (0.02)	0.01	-0.04	0.06
Praise Intensity	-0.26 (0.33)	-0.04	-0.90	0.37
<i>Random Effects</i>				
Variance	Est.		95% Credible Intervals	
			LL	UL
Level 1				
Praise PA	330.28 (12.52)		306.78	356.12
Praise NA	188.50 (7.18)		175.27	203.19
Level 2				
Praise PA	430.50 (91.72)		290.70	646.86
Praise NA	117.49 (30.37)		72.20	72.20
Random Slopes				
Praise Intensity → Praise PA	7.28 (2.82)		3.27	14.21
Praise Intensity → Praise NA	3.77 (1.60)		1.49	7.71

Note. FPE = Fear of Positive Evaluation; FNE = Fear of Negative Evaluation; Praise PA =

Positive affect after praise; Praise NA = Negative affect after praise; Std. Est. = standardized estimate. Credible intervals are unstandardized; significant effects are in bold.

Emotion Regulation Following Praise

We proceeded to examine whether FPE and FNE moderated the relationship between positive and negative affect after receiving positive feedback and the regulation of positive and negative emotions. To this end, we estimated two separate models for PA and NA, including only assessments that involved positive feedback (Hypotheses 5 and 6). In total, the dataset included 1,529 instances of positive feedback (per person: $M = 19.11$, $SD = 11.09$, range = 2–47). Null models yielded ICCs of .58 for acceptance of positive emotions, .55 for acceptance of negative emotions, .41 for suppression of positive emotions, .38 for suppression of negative emotions, and .42 for rumination. At the between-person level of the PA model, greater PA following praise predicted more acceptance of positive emotions ($b = 0.48$, 95% CI [0.21, 0.76], $\beta = .26$). In addition, higher FPE was associated with lower acceptance ($b = -3.68$, 95% CI [-6.56, -0.98], $\beta = -.23$) and greater suppression of positive emotions ($b = 5.29$, 95% CI [3.20, 7.34], $\beta = .42$). Moderation effects of FPE and FNE on these relationships were not significant.

At the between-person level of the NA model, higher NA following praise was related to increased rumination ($b = 0.86$, 95% CI [0.46, 1.27], $\beta = .37$). Additionally, FPE was associated with greater suppression of negative emotions ($b = 4.75$, 95% CI [1.88, 7.55], $\beta = .34$). Again, moderation effects of FPE and FNE were not significant. An exemplary table with the full results of the PA model is shown in Table 3; full results of the NA model can be found in Supplementary Table 2 in the Additional File 1.

Table 3

Effects of FPE, FNE, and Positive Affect after Praise on Emotion Regulation of Positive Emotions

<i>Between-Person Effects</i>				
Outcome Predictors	<i>b (S.D.)</i>	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Acceptance of Positive Emotions: $R^2 = .15$</i>				
Intercept	36.27 (14.88)	1.61	7.85	65.34
FPE	-3.68 (1.41)	-0.23	-6.56	-0.98
FNE	0.71 (2.93)	0.02	-4.89	6.28
Praise PA	0.48 (0.14)	0.26	0.21	0.76
FPE x Praise PA	-0.01 (0.02)	-0.06	-0.04	0.03
FNE x Praise PA	0.06(0.04)	0.20	-0.02	0.14
Gender (male)	-1.20 (4.93)	-0.02	-10.76	8.45
Gender (diverse)	4.41 (21.24)	0.01	-39.60	44.80
<i>Suppression of Positive Emotions: $R^2 = .23$</i>				
Intercept	44.55 (11.05)	2.54	22.64	66.26
FPE	5.29 (1.08)	-0.11	3.20	7.34
FNE	-2.64 (2.16)	-0.12	-6.93	1.62
Praise PA	-0.18 (0.11)	-0.12	-0.39	0.02
FPE x Praise PA	0.01 (0.02)	0.03	-0.04	0.04
FNE x Praise PA	-0.03 (0.04)	-0.10	-0.12	0.06
Gender (male)	-1.25 (3.74)	-0.02	-8.47	6.04
Gender (diverse)	5.28 (16.01)	0.02	-26.22	36.44
<i>Within-Person Effects</i>				
Outcome Predictors	<i>b (S.D.)</i>	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Acceptance of Positive Emotions: $R^2 = .08$</i>				
Time	0.14 (0.03)	0.11	0.08	0.20
Praise PA	-0.04 (0.14)	0.17	-0.31	0.24
<i>Suppression of Positive Emotions: $R^2 = .05$</i>				
Time	-0.15 (0.03)	-0.12	-0.22	-0.09
Praise PA	0.07 (0.15)	-0.03	-0.25	0.36
<i>Random Effects</i>				
Variance	Est.		95% Credible Intervals	
			LL	UL
<i>Level 1</i>				
Acceptance of positive emotions	311.59 (11.80)		289.16	335.26
Suppression of positive emotions	354.20 (13.88)		328.30	383.89
<i>Level 2</i>				
Acceptance of positive emotions	428.25 (81.89)		297.94	612.90
Suppression of positive emotions	238.10 (51.83)		160.68	365.47
<i>Random Slopes</i>				
Praise PA → Acceptance	0.04 (0.02)		0.02	0.08
Praise PA → Suppression	0.05 (0.02)		0.02	0.10

Note. FPE = Fear of positive evaluation; FNE = Fear of negative evaluation; Praise PA =

Positive affect after praise. Std. Est. = standardized estimate. Credible intervals are unstandardized; significant effects are in bold.

Emotion Regulation as a Mediator Between Evaluation Fears and Daily Affect

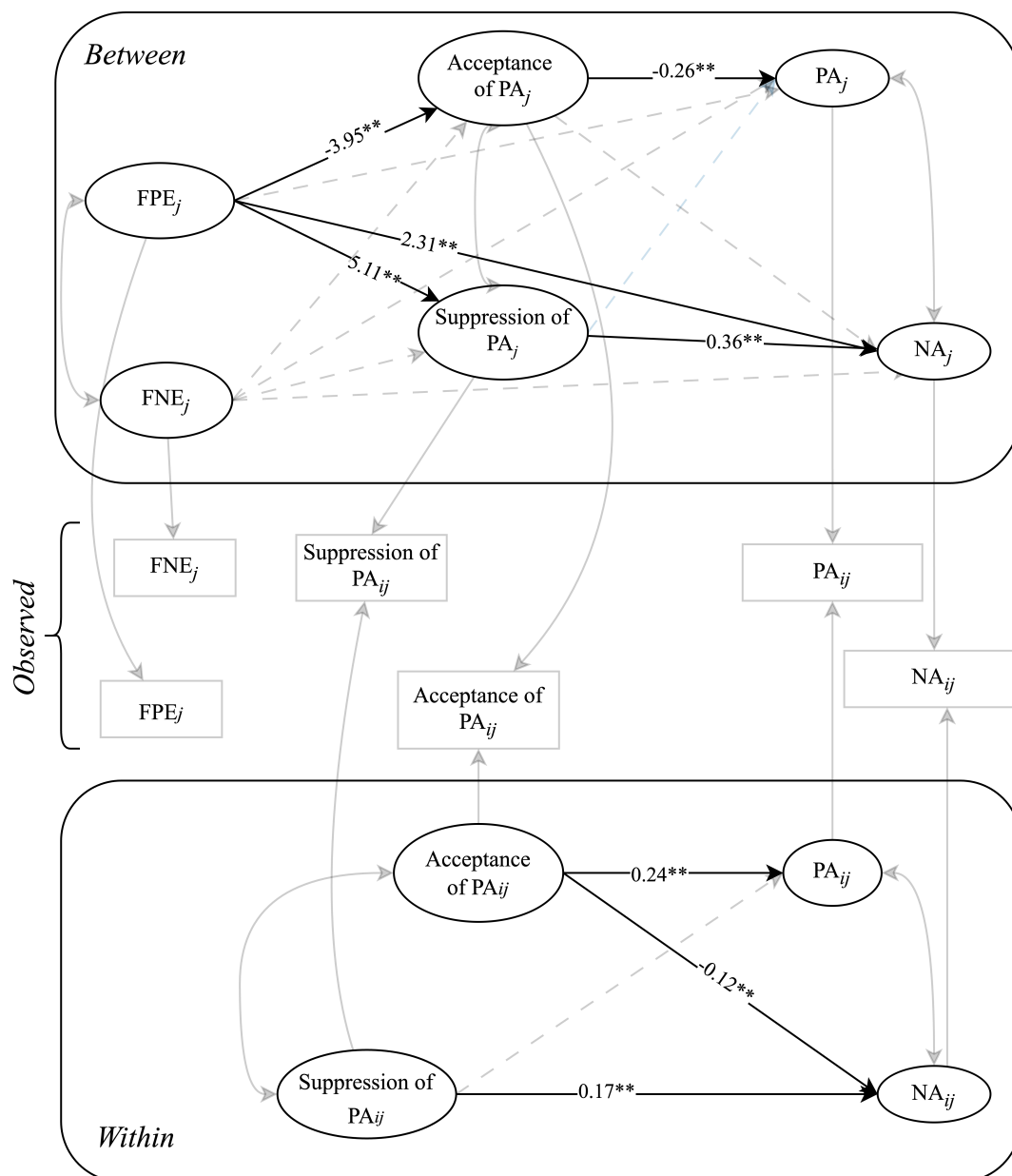
Last, to evaluate whether the relationship between fears of evaluation and momentary affect was mediated by emotion regulation, we estimated two separate models (Hypotheses 7 and 8), this time including all assessments regardless of whether positive feedback was received. In Model 1, FPE and FNE were included as predictors, acceptance and suppression of positive emotions served as mediators, and momentary positive and negative affect were specified as outcomes. Findings showed that higher FPE was associated with lower acceptance ($b = -3.95$, 95% CI $[-6.78, -1.21]$, $\beta = -.32$) and higher suppression ($b = 5.11$, 95% CI $[3.14, 6.98]$, $\beta = .58$) of positive emotions. In turn, greater acceptance predicted higher momentary PA ($b = 0.26$, 95% CI $[0.07, 3.79]$, $\beta = .35$), and greater suppression predicted higher NA ($b = 0.36$, 95% CI $[0.17, 0.54]$, $\beta = .47$). FPE also directly predicted higher NA ($b = 2.31$, 95% CI $[0.90, 3.79]$, $\beta = .35$). Mediation analyses revealed that FPE had an indirect effect on lower PA via reduced acceptance ($b = -0.97$, 95% CI $[-2.26, -0.15]$, $\beta = -.11$) and on higher NA via increased suppression ($b = 1.76$, 95% CI $[0.74, 3.08]$, $\beta = .27$). FNE did not emerge as a significant predictor of either emotion regulation or momentary affect.

In Model 2, FPE and FNE again served as between-person predictors, while acceptance and suppression of negative emotions and rumination were included as mediators, with momentary positive and negative affect as outcomes. In this model, FPE was associated with lower acceptance of negative emotions ($b = -3.68$, 95% CI $[-7.05, -0.57]$, $\beta = -.29$), greater suppression of negative emotions ($b = 5.78$, 95% CI $[3.43, 8.27]$, $\beta = .55$), and higher rumination ($b = 4.64$, 95% CI $[2.30, 7.07]$, $\beta = .46$). In turn, higher acceptance predicted higher momentary PA ($b = 0.27$, 95% CI $[0.07, 0.45]$, $\beta = .42$), and more rumination predicted higher NA ($b = 0.33$, 95% CI $[0.19, 0.47]$, $\beta = .49$). FPE also directly predicted higher NA ($b = 2.18$, 95% CI $[0.82, 3.54]$, $\beta = .31$). Regarding indirect effects, FPE predicted lower PA via reduced acceptance of negative emotions ($b = -0.92$, 95% CI $[-2.27, -0.06]$, β

= .12), and higher NA via increased rumination ($b = 1.5$, 95% CI [0.61, 2.71], $\beta = .23$). As in Model 1, FNE was unrelated to emotion regulation and did not show significant direct or indirect effects. An exemplary figure of the PA model is presented in Figure 2.

Figure 2

Multilevel Structural Equation Model Depicting Effects of Fears of Evaluation on Daily Affect via Regulation of Positive Affect



Note. **Solid lines indicate significant effects whose 95% credible intervals did not include zero, dashed lines indicate non-significant effects.

A corresponding figure of the NA model (Supplementary Figure 1) and tables containing the full results (Supplementary Tables 3 and 4) are available in the Additional File 1.

Discussion

The main goal of this study was to investigate the role of fear of positive and negative evaluation in the everyday life of adolescents, particularly concerning affective reactions to positive feedback, overall positive and negative affect, and three emotion regulation strategies theorized to be linked to these fears (i.e., acceptance, suppression, and rumination). The present results provide valuable insights into how adolescents with heightened fears of evaluation navigate social situations involving praise in their daily lives, and how these fears are related to daily affective states and emotion regulation.

First, we found that social anxiety and FPE were both associated with increased daily negative affect, but not with lower daily positive affect. This partially diverges from previous literature, which has linked social anxiety to a dual pattern of heightened negative and diminished positive affect (Kashdan, 2007). One possible explanation lies in developmental differences: adolescence is marked by more intense and frequent experiences of negative emotions compared to childhood and adulthood, making negative affect a particularly prominent feature in this age group (Cracco et al., 2017). Additionally, although social anxiety is often conceptualized as existing on a continuum, with many adolescents experiencing elevated symptoms without meeting diagnostic criteria (Spence & Rapee, 2016), differences in affective profiles have been observed depending on symptom severity; for instance, reduced positive affect tends to emerge more consistently in clinical populations, but this is not always the case in community samples (Anderson et al., 2010). Turning to FPE, the lack of a significant link between this fear of evaluation and positive affect in our data may reflect the temporal sequence of these processes. Although still in early stages, longitudinal research suggests that adolescent social anxiety predicts later increases in FPE,

but not vice versa (Fredrick & Luebbe, 2024). Combined with the notion that diminished positive affect seems to manifest in clinical compared to community samples, this may indicate that disruptions in positive affect emerge as downstream consequences of prolonged social anxiety, becoming more pronounced as these processes chronify. That being said, FPE did have indirect effects on PA through emotion regulation. While the direct link between FPE and PA might be too weak to be detected in our sample, the presence of significant indirect effects points to underlying mechanisms through which FPE impacts PA, even when a direct relationship is not apparent. Interestingly, while social anxiety predicted a lower frequency of reported positive feedback, FPE did not. This suggests that it is social anxiety, rather than fear of positive evaluation specifically, that reduces adolescents' exposure to praise. One explanation is that social anxiety is more closely tied to avoidance of social situations overall (Spence & Rapee, 2016), thereby limiting opportunities for positive feedback. In contrast, FPE may rather influence how praise is processed once it occurs. Adolescents high in FPE might not actively avoid praise-relevant contexts but may react with discomfort or downplay the experience internally. Another pathway may be that adolescents with FPE might not directly avoid situations that could result in positive social outcomes but tend to less actively seek such situations over time. If the emotional reward of a social situation, praise and positive affect, cannot be accepted and is downplayed, the situation itself might appear less rewarding over time and thus less actively sought.

When examining affective responses to praise, we found that higher perceived praise intensity was generally linked to greater positive affect. Significant variability in this effect across individuals emerged, as evidenced by significant random slope variance, yet this variation was not explained by either fear of negative or positive evaluation. Turning to the main effects, FPE was not associated with positive affect following praise. Beyond the aforementioned interpretations regarding positive affect in socially anxious youth, this may

reflect the possibility that FPE is particularly tied to discrete positive emotions such as pride (Cohen & Huppert, 2018), rather than more general emotions like excitement, which were not distinguishable within our measure of positive affect. Nevertheless, FPE predicted increased negative affect in response to praise. This finding is in line with theoretical perspectives that emphasize the role of FPE in elevating arousal, anxiety, and heightened negative affect in situations involving positive feedback (Weeks & Howell, 2014).

Our findings further revealed notable patterns regarding the role of fears of evaluation in adolescents' emotion regulation, both in response to praise and in daily life in general. While fears of evaluation did not explain variability in the relationship between positive affect after praise and emotion regulation, several main effects highlighted the distinct role of FPE. Specifically, on occasions involving positive feedback, FPE was associated with lower acceptance of positive emotions and greater suppression of both positive and negative emotions. These results support the notion that FPE contributes to the positivity impairment phenomenon seen in social anxiety, likely by habitually discounting positive social outcomes (e.g., by curtailing the acceptance of positive emotional reactions thereby dampening them), as well as the suppression of associated emotions (Reichenberger & Blechert, 2018).

Mediation analyses, which included all assessment occasions regardless of incidents of praise, revealed that FPE was further associated with reduced acceptance of negative emotions and increased rumination. Given that rumination in social anxiety often takes the form of post-event processing (Brozovich & Heimberg, 2008), these findings suggest that FPE may also contribute to delayed cognitive-affective responses, as adolescents revisit earlier social encounters while struggling to accept the negative emotions these reflections evoke. Additionally, FPE indirectly predicted lower positive affect through reduced acceptance of positive and negative emotions and higher negative affect through increased suppression and rumination. These results highlight FPE's potential contributions to sustained

emotional dysregulation and persistent affective disturbances in adolescence.

Strikingly, FNE was not associated with any emotion regulation strategy in our data, highlighting FPE as the more salient and robust predictor of ER difficulties. One possible explanation is that FPE reflects a general aversion to being the center of attention, independent of whether feedback is positive or negative. Prior work supports this interpretation: Weeks et al. (2010) found FPE to be related to decreased preference of both types of feedback, whereas FNE was limited to a decreased preference for negative feedback. Carter et al. (2012) similarly showed that FPE predicted anxiety following feedback, regardless of its valence, and Karp et al. (2018) identified a specific link between FPE and heightened arousal in social contexts, beyond FNE. Based on a mixed-methods investigation, Wilson et al. (2022) suggested that the FPE scale may inadvertently assess FNE or a more general fear of evaluation, encompassing both negative and positive appraisals. A closer inspection of some of the FPE scale items support this idea; items like “I try to choose clothes that will give people little impression of what I am like” and “I am uncomfortable exhibiting my talents to others, even if I think my talents will impress them” may reflect a fear of any kind of evaluation, *even if it is positive*, compared to a specific fear of positive evaluation. These observations could partly explain why only FPE predicted difficulties across all domains of emotion regulation, while FNE did not. To assess the merit of this hypothesis, we computed an FPE scale omitting the relevant items (items # 1, 3, 9) and found that it correlated with the original scale at $r = .96$. This indicates that even without these critical items, the scales appear to measure the same construct. Similarly, the correlations between the two scales and the person averages of all EMA variables were highly consistent ($\Delta r \approx -0.002$ on average; range -0.07 to +0.05). Nevertheless, utilizing newer instruments that clearly distinguish between the two evaluation fears and delineate their underlying core beliefs, such as the Fear of Evaluation Scale (FES; Wilson et al., 2023) and the Positive

Evaluation Core Beliefs Scale (PECS; Cook et al., 2024), may provide more precise insights into the specific and unique effects of these fears on the experiences of socially anxious individuals.

Taken together, these findings support emerging conceptualizations of social anxiety that frame the disorder not simply as an excessive fear of negative evaluation but as a broader sensitivity to being evaluated in any form (Weeks & Howell, 2012). This view has gained traction in recent years, with some researchers calling for a redefinition of social anxiety as a condition marked by a general heightened sensitivity to social feedback, whether negative, positive, or neutral (Hofmann, 2025).

Practical Implications

Our findings offer insights into how adolescents with heightened fears of evaluation respond to positive social feedback and manage their emotions in their daily lives, highlighting the unique and pervasive role of FPE in their emotional functioning. Demonstrated for, to our knowledge, the first time in adolescents' everyday lives, our findings suggest that FPE not only disrupts positive affective experiences but also fosters potentially maladaptive emotion regulation strategies, contributing to elevated negative and reduced positive affect. As positivity impairment becomes increasingly recognized as a core feature of social anxiety (Gilboa-Schechtman et al., 2014), and given that fears of evaluation may fuel this phenomenon, these findings highlight the risk of overlooking essential contributors to emotional dysfunction when focusing exclusively on FNE in socially anxious youth.

From a clinical perspective, our findings underscore the need for nuanced interventions that address both FNE and FPE. Clinicians should be aware that fears of praise and positive attention may hinder the effectiveness of traditional exposure-based treatments if left unaddressed (Weeks & Howell, 2014). Adolescents may fail to benefit from successful real-world exposures if FPE triggers negative affect as a result, thereby limiting symptom

improvement. In addition, individuals with FPE might suppress positive emotional responses, avoid the emotional impact of praise, and ruminate about social events, which may further reinforce symptom persistence. Relatedly, positive reinforcement from therapists may also paradoxically increase anxiety in adolescents high in FPE, potentially raising the risk of treatment dropout (Cook et al., 2022). On a related note, Cook et al. (2024) identified pressure to perform as a core belief underlying FPE, i.e., the belief that praise reflects a raise in others' expectations. In therapeutic contexts, this belief could backfire, in that successfully navigating an agreed-upon social task and receiving positive feedback may lead to fears that the therapist's future expectations will increase, fueling anxiety and negative affect. Importantly, Weeks et al. (2020) demonstrated in a pilot study that directly targeting FPE in the treatment of social anxiety not only reduced FPE but also produced broader improvements in overall social anxiety symptoms. Echoing this, Morrison et al. (2024) found that both FPE and FNE played a role in moderating and mediating therapeutic change, reinforcing the need for interventions to comprehensively address both forms of evaluation fear to enhance treatment outcomes.

Limitations

This study has several limitations that must be considered. First, the study used a convenience sample and was conducted online and anonymously. Although we sought to reach a broad demographic by contacting different schools and youth centers, the sample is not representative. In addition, the gender distribution was slightly skewed (63% female), and gender differences emerged: Female gender had significant effects on suppression of negative emotions as well as rumination. Additionally, although not statistically significant, female participants showed a tendency toward higher levels of social anxiety (Cohen's $d = 0.40$, $p = .09$) and fear of negative evaluation (Cohen's $d = 0.34$, $p = .15$), indicating that gender-related variation may have contributed to some of the effects we observed, particularly in

emotion regulation outcomes.

A further limitation related to the study sample relates to its broader demographic composition. The ethnic and cultural diversity of our sample was low, which limits the generalizability of our findings. We conducted this study in German-speaking regions and only seven participants reported a native language other than German, which implies a largely homogeneous sample in terms of ethnic and cultural background. That being said, we did not explicitly assess ethnicity or cultural background, which means that adolescents with a migration background who are native German speakers may have not been identified as such. These adolescents may potentially exhibit different patterns with regard to the study variables, which we were unable to detect based on our data. For instance, recent research indicates that ethnic discrimination may be associated with social anxiety and peer victimization (Di Tata et al., 2024), as well as peer acceptance in general (Rodríguez-Ventosa Herrera et al., 2024). Lastly, we did not assess socioeconomic status, which also could have affected some of our results, although these associations have not been found consistently in previous research (Rapee et al., 2023).

Furthermore, despite considerable efforts to ensure data quality, online data collection has its disadvantages (e.g., sampling and self-selection bias, inattentiveness; Newman et al., 2021) that must be taken into account when interpreting the results. Additionally, while many participants reported elevated social anxiety symptoms above established cut-offs (Ranta et al., 2007), no clinical interviews were conducted, so we were unable to determine the participants' diagnostic status. Given that clinical and community samples may differ in their emotional profiles (Anderson et al., 2010), this may have influenced our findings.

Regarding our sample size, we cannot rule out the possibility that the number of Level-2 units was insufficient to detect cross-level interactions. Power analysis in multilevel models is complex, and rules of thumb are difficult to apply. Simulation studies often reach

different conclusions, with some advocating for larger sample sizes at the second level (Bolger & Laurenceau, 2013) and others suggesting that more observations at the first level can provide comparable power, especially if the variability of slopes is high (Mathieu et al., 2012). Therefore, although our sample was likely adequate for reliably estimating fixed effects, it may still have been underpowered to detect cross-level interactions, a limitation that is difficult to quantify.

Another limitation is the exclusive use of self-report measures. Prior work has shown that associations between self-reported social anxiety, observed social anxiety, and positive affect can diverge (Fredrick et al., 2019), suggesting that relying solely on self-report may limit the validity of our findings. Additionally, to reduce participant burden, we used single-item measures for positive and negative affect. While this approach is reliable for capturing momentary affect (Cloos et al., 2023), it does not allow for emotion-specific analyses. Social anxiety may differentially affect discrete emotions, such as pride or joy (Gilboa-Schechtman et al., 2014), which we did not assess. Moreover, we defined positive feedback as a verbal positive expression about the participants' looks, personality traits, or performance. Recent literature suggests that socially anxious individuals' reactions to praise or criticism may vary depending on the focus of the evaluation (Cook et al., 2022). For example, individuals with the performance-only subtype of social anxiety may react more negatively to performance-related praise than to feedback focused on other domains. Future research should consider differentiating among feedback types to better understand the specific triggers and mechanisms by which evaluation fears operate in socially anxious adolescents and adults.

Finally, while we linked emotion regulation to changes in momentary affect, we did not account for the purpose the use of these strategies might have served. Fears of evaluation are theorized to stem from an evolutionary need to avoid conflict and group exclusion (Reichenberger & Blechert, 2018). For instance, the (non-excessive) use of expressive

suppression may in fact be adaptive in certain contexts, such as the school, as emotional expression may indeed lead to some adverse social outcomes.

Conclusion

This study highlights the role of FPE in adolescents' daily emotional experiences and emotion regulation. Using EMA, we demonstrated that FPE is directly associated with increased negative affect and indirectly with reduced positive affect, reduced emotional acceptance, and greater suppression and rumination in everyday life. These findings support emerging views of social anxiety going hand in hand with a pronounced sensitivity to social evaluation in general, regardless of its valence. Interventions aiming to reduce social anxiety in adolescence may benefit from directly targeting FPE and associated regulatory patterns to foster healthier emotional processing and more adaptive responses to social feedback.

Statements

Ethics

The study was conducted in accordance with the Declaration of Helsinki and was approved by the Ethics Committee of the University of Vienna (approval number: 01076, date: November 28, 2023).

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Conflict of Interest

The authors declare no competing interests.

Author Contributions (CRediT)

Conceptualization: ATF, DRK, MZ; Investigation: ATF; Data curation: ATF; Formal analysis: ATF; Methodology: ATF, MZ; Project administration: ATF, MZ; Resources: MZ; Supervision: MZ; Visualization: ATF; Writing – original draft: ATF; Writing – review and editing: ATF, DRK, MZ.

Supplementary Material and Data Availability Statement

The preregistration of this study can be found at <https://osf.io/srvj3>. Datasets, codes, analysis outputs, and supplementary materials are available at <https://osf.io/yhn6c>.

The preprint can be found at https://doi.org/10.31234/osf.io/vzma8_v1, and the supplementary materials are also included in the annex of this thesis.

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Master's Theses

Müller, C. L. F. (2024). *Bitte keine Kritik! Eine elektronische Tagebuchstudie zur sozialen Ängstlichkeit, Rumination und Kritikerhalt bei Jugendlichen*. [Please, no criticism! An electronic diary study on social anxiety, rumination, and the receipt of criticism among adolescents.] [Unpublished master's thesis]. University of Vienna.

Schilling, F. (2025) *Rumination und Depressivität im Alltag von Jugendlichen: Die Rolle des sozialen Kontexts – eine Ecological Momentary Assessment Studie*. [Rumination and depressive symptoms in adolescents' everyday lives: The role of the social context – an ecological momentary assessment study.] [Unpublished master's thesis]. University of Vienna.

Schleßling, L. (2023). *Angst vor Bewertung und Emotionssuppression bei Jugendlichen: Eine Elektronische Tagebuchstudie*. [Fear of evaluation and emotion suppression in adolescents: An electronic diary study.] [Unpublished master's thesis]. University of Vienna.

Schneckenreiter, C. (2024). *Gefangen im Grau: Eine digitale Tagebuchstudie zur Untersuchung der sozialen Angstsymptome, des positiven Affektss und der Emotionsregulation von Jugendlichen*. [Trapped in gray: A digital diary study examining adolescents' social anxiety symptoms, positive affect, and emotion regulation] [Unpublished master's thesis]. University of Vienna.

Abbreviations

BFNE = Brief Fear of Negative Evaluation Scale; CI = Credible Interval; EMA = Ecological Momentary Assessment; ER = Emotion Regulation; FNE = Fear of Negative Evaluation; FPE = Fear of Positive Evaluation; FPES = Fear of Positive Evaluation Scale;

ICC = Intraclass Correlation Coefficient; NA = Negative Affect; PA = Positive Affect; OSF = Open Science Framework; SPIN = Social Phobia Inventory; VAS = Visual Analogue Scale.

Concluding Discussion

In the fictional example presented throughout the theoretical background of this thesis, S., the fourteen-year-old boy of this story, found himself in a new city going to school for the first time. Already worried about how he would be perceived, he was asked on the first day of class to introduce himself to his peers. The situation felt highly stressful, triggering intense physical reactions and anxious thoughts. After finishing his speech and returning to his desk, to his surprise, both the teacher and his classmates reacted positively to him, the teacher welcoming him to the class and the classmates inviting him to spend time with them on the weekend. However, overwhelmed by the sensation this exposure brought onto him, S. struggled to take in the positive aspects of the interaction or to tolerate the emotions it elicited. He attempted to hide his feelings and found it difficult to stop thinking about the event, focusing mainly on what he believed had gone wrong. As a result, the positive elements quickly faded from memory, replaced by anxiety and fear that he had embarrassed himself.

This example was intended to anchor the theoretical concepts in a real-life scenario and show how fears of evaluation can shape emotional responding in everyday social situations, with the fear of negative evaluation taking center stage during such an interaction and the fear of positive evaluation interfering with the ability to savor the positive moments during and after it. The following discussion integrates the empirical findings of the present dissertation with existing theoretical models to clarify how the processes illustrated in this scenario unfold in adolescence.

Summary of the Main Findings

Social anxiety is increasingly conceptualized as a psychological condition marked by hypersensitivity to social evaluation, regardless of its valence (Hofmann, 2025; Weeks &

Howell, 2012), as well as pervasive disturbances in both positive and negative affect (Gilboa-Schechtman et al., 2014). Moreover, a large body of research shows that emotion regulation processes are disrupted in socially anxious individuals, who commonly struggle with acceptance of their emotional experiences (Figueiredo et al., 2024; Keil et al., 2017; Mathews et al., 2014; Rusch et al., 2012; Schneider et al., 2016; Young et al., 2019), rely on expressive suppression to avoid attention (Bates et al., 2021; Dryman & Heimberg, 2018; Jazaieri et al., 2015), and engage in repetitive negative thinking about past (or anticipated) social interactions (Badra et al., 2017; Blanco & Joormann, 2017; Fehm et al., 2007; Kane et al., 2023; Modini et al., 2018).

Although cognitive-behavioral models have long proposed that fears of negative evaluation shape how socially anxious individuals navigate social situations (Clark & Wells, 1995; Heimberg et al., 2014), their potential role in shaping emotion regulation has remained largely untested. In particular, the influence of the fear of positive evaluation and its proposed contribution to social anxiety's characteristic positivity impairment (Gilboa-Schechtman et al., 2014; Reichenberger & Blechert, 2018) has not previously been examined through the lens of emotion regulation. Especially in adolescence, a developmental stage characterized by substantial social and biological changes that shape how social evaluation is perceived (Somerville, 2013; Sumter et al., 2010; Westenberg et al., 2004, 2007) and make effective emotion regulation particularly difficult (Cracco et al., 2017), examining the associations between these constructs is especially important. Considering that many adolescents experience social fears and that social anxiety is understood to lie on a continuum, with subclinical symptoms already linked to marked impairments across multiple life domains (Spence & Rapee, 2016), it is important to highlight that this dissertation investigated these associations in samples drawn from the general population. Insights into the processes that contribute to the emergence and maintenance of social anxiety and social anxiety disorder

during this period could support the refinement of targeted interventions that, although helpful in reducing social anxiety symptoms, often yield lower recovery rates compared with treatments for other anxiety disorders (Evans et al., 2021). Therefore, the present dissertation aimed to address these gaps by investigating the roles of fear of negative evaluation and fear of positive evaluation in the associations between social anxiety, emotion regulation, and affect in adolescence. By combining cross-sectional, longitudinal, and ecological momentary assessment methods, the four scientific papers presented here offer a comprehensive picture of how evaluation fears relate to emotional functioning across different time frames and contexts.

Chapter 1 examined the mediating role of fears of evaluation in the cross-sectional associations between social anxiety and emotion regulation in a large adolescent sample ($N = 647$). Bivariate correlations revealed moderate associations among all variables: social anxiety and both FPE and FNE were each correlated with lower acceptance, higher suppression, and higher rumination. Structural equation modeling revealed differential pathways linking these constructs. Specifically, social anxiety exerted an indirect effect on acceptance via FPE, and a serial indirect effect on suppression via FPE and acceptance. In contrast, the association between social anxiety and rumination was mediated by FNE. These were significant while accounting for depressive symptoms, underscoring the distinct contribution of both evaluation fears to emotion regulation difficulties in adolescence.

Chapter 2 extended these findings by testing prospective associations among the same constructs across three time points over six months. Using random intercept cross-lagged panel models (Hamaker et al., 2015; Mulder & Hamaker, 2021), between-person correlations indicated that FPE was related to all three emotion regulation strategies, while social anxiety and FNE were associated with lower acceptance and greater rumination, but not suppression. Acceptance was negatively correlated with both suppression and rumination,

which were positively correlated with one another. Longitudinally, acceptance predicted subsequent FPE, and in a sensitivity analysis, FPE also predicted later acceptance, suggesting a bidirectional association between these constructs over time. Furthermore, suppression predicted increases in social anxiety, and social anxiety predicted increases in rumination.

Turning to adolescents' daily experiences, **Chapter 3** examined these associations in everyday life using 1,998 momentary observations from 47 participants. At the between-person level, social anxiety was associated with lower acceptance of both positive and negative emotions, as well as higher suppression of negative emotions and greater rumination, while suppression of positive emotions showed no significant association with social anxiety. Mediation analyses revealed that social anxiety predicted higher daily negative affect indirectly through rumination and lower daily positive affect indirectly through reduced acceptance. At the within-person level, emotion regulation strategies displayed the expected momentary effects on affect; acceptance of positive emotions predicted higher positive affect, acceptance of negative emotions predicted lower negative affect, suppression of positive emotions dampened positive affect while suppression of negative emotions exacerbated it, and rumination predicted higher negative affect.

Chapter 4 examined the specific effects of fears of evaluation on adolescents' affective reactions to positive feedback, their subsequent emotion regulation responses, and their overall positive and negative affect in daily life drawing on 3,423 observations from 80 participants. Analyses revealed that FPE predicted greater negative affect following the receipt of positive feedback, alongside lower acceptance of positive, and higher suppression of both positive and negative emotions in those moments. Beyond event-specific effects, FPE was also associated with higher negative affect, greater rumination and reduced acceptance of negative emotions across the day. In terms of the effects of emotion regulation on momentary affect, this study also explored cross-valence dynamics, i.e., how the regulation of positive

emotions influenced negative affect and vice versa. These analyses revealed that lower acceptance of both positive and negative emotions was associated with reduced positive affect, while greater rumination and suppression of positive emotions were linked to higher negative affect. Within-person analyses further confirmed these momentary associations, showing that acceptance predicted lower negative affect and higher positive affect, whereas suppression and rumination heightened emotional distress.

In the next section of this dissertation, the findings outlined above will be discussed in depth, integrated into existing theoretical frameworks, and their theoretical and practical implications will be clarified. First, social anxiety and its associations with emotion regulation will be elaborated. Next, the links between the three emotion regulation strategies of interest and momentary positive and negative affect will be examined. Finally, the focus will shift to fears of evaluation and their specific associations with emotion regulation and momentary affect through these three strategies. More specifically, the differential associations between the two evaluation fears and emotion regulation and affect will be elucidated, with particular attention being directed towards fear of positive evaluation.

Social Anxiety and Emotion Regulation

First, it is worth examining the contributions of this thesis to the understanding of the associations between adolescents' social anxiety and emotion regulation irrespective of the specific roles of fears of evaluation. Expressive suppression has long been considered a hallmark of this disorder, with numerous studies documenting robust associations across a variety of contexts in both adults (Dryman & Heimberg, 2018; Jazaieri et al., 2015) and adolescents (Golombok et al., 2020). In addition, socially anxious adults and adolescents are often characterized by difficulties accepting or tolerating internal emotional experiences (Golombok et al., 2020; Mennin et al., 2009; Young et al., 2019), while rumination is further

considered a key process in social anxiety (Brozovich & Heimberg, 2008; Everaert et al., 2020; Klemanski et al., 2017; Sackl-Pammer et al., 2019).

Evidence for these associations was found across three studies of this dissertation: First, bivariate correlations between social anxiety and acceptance were significant and consistent in **Chapters 1, 2, and 3**. The associations between these two variables align with previous literature showing that socially anxious individuals struggle with the tolerance of internal emotional experiences and believe that they should be avoided and hidden from the outside (Daniel et al., 2020; Mathews et al., 2014; Spokas et al., 2009). Interestingly, acceptance also emerged as a mediator between social anxiety, FPE and suppression in the cross-sectional model (**Chapter 1**), supporting the notion that a nonaccepting stance towards emotional experiences may act as a precedent or facilitator of other maladaptive, mainly avoidant, emotion regulation strategies (Kashdan et al., 2008, 2014). That said, findings from the longitudinal analyses (**Chapter 2**) suggested that nonacceptance and social anxiety are primarily concurrent processes, with neither predicting the other over time, in line with a previous study with adolescents (e.g., Schneider et al., 2016). A different longitudinal study, however, has demonstrated an indirect link from acceptance to social anxiety through psychological inflexibility, although the model presented in that study did not fit the data particularly well (Figueiredo et al., 2024). Conversely, a cross lagged analysis of the associations between experiential avoidance (a related construct) and social anxiety showed that social anxiety predicted later experiential avoidance, but not the reverse, in a sample of Japanese adolescents (Shimoda et al., 2018). These mixed findings indicate that more studies are needed to clarify how these two constructs are linked longitudinally in adolescence. Moving to daily life analyses, results from **Chapter 3** revealed that adolescents higher in social anxiety reported lower acceptance of both positive and negative emotions overall,

which highlights an overall difficulty with emotional experiences over a variety of situations and contexts (Kashdan et al., 2014).

Moreover, and consistent with previous literature identifying rumination as a key process in adolescent social anxiety (Golombek et al., 2020), this regulation strategy also emerged in our data as a central mechanism underlying this psychological condition. Across **Chapters 1, 2, and 3**, rumination was consistently correlated with social anxiety, reinforcing this well-established link (Brozovich & Heimberg, 2008; Heimberg et al., 2014). In the longitudinal analyses (**Chapter 2**), rumination appeared as a downstream consequence of social anxiety, aligning with prior evidence that higher social anxiety predicts later increases in rumination during adolescence (Jose et al., 2012). However, other longitudinal work has shown that rumination can also predict subsequent social anxiety in children (Hauffe et al., 2024) and adults (Wu et al., 2024), whereas one study found that rumination no longer predicted later social anxiety in a sample of adolescents after controlling for other cognitive variables such negative social cognitions and self-focused attention (Chiu et al., 2021). Thus, findings on the directionality of effects between social anxiety and rumination remain inconclusive, highlighting the need for further research to clarify temporal precedence. In the daily life analyses (**Chapter 3**), social anxiety predicted greater rumination, which in turn predicted higher negative affect, even when controlling for depressive symptoms. Taken together, these findings suggest that rumination functions as a consequence of social anxiety, amplifying and maintaining negative emotional experiences (Brozovich & Heimberg, 2008, 2011; Edgar et al., 2024; Heimberg et al., 2014). That being said, its role in predicting later increases in social anxiety has been demonstrated before and should not be overlooked (Hauffe et al., 2024; Wu et al., 2024).

Less robust were the associations between social anxiety and suppression, with bivariate correlations ranging from nonsignificant to small across studies, contrary to

expectations. Nevertheless, several meaningful patterns emerged. When controlling for fears of evaluation, depressive symptoms, and acceptance, social anxiety was negatively associated with suppression (**Chapter 2**). This pattern suggests that the tendency to conceal emotional expression may weaken, or even reverse, when adolescents feel less evaluated and more accepting of their internal states. This interpretation aligns with research showing that socially anxious individuals often engage in interpersonal emotion regulation and co-rumination with close peers (Hofmann et al., 2016; Jose et al., 2012), presumably due to a lack of perceived threat. Relatedly, despite a general wish to avoid self-disclosure, social anxiety has been linked to excessive reassurance seeking, in that socially anxious individuals may often seek out a safe relationship to talk about their fears and concerns (Heerey & Kring, 2007; Rector et al., 2011). That said, longitudinal analyses indicated that habitual suppression predicted later increases in social anxiety, supporting its role as a potential risk factor for the development of the disorder (Dryman & Heimberg, 2018). Findings from the ecological momentary assessment study (**Chapter 3**) further indicated that socially anxious adolescents suppress negative emotions more frequently in their daily lives, in line with previous EMA research (Blalock et al., 2016; Farmer & Kashdan, 2012; Goodman, Kashdan, et al., 2021; Hauffe et al., 2024; Kashdan & Steger, 2006; O'Toole et al., 2017). That being said, we did not find that social anxiety was associated with positive suppression in this Chapter, suggesting that positive suppression is not as relevant in adolescent social anxiety as it appears to be in adulthood (Blalock et al., 2016; Kashdan & Steger, 2006; O'Toole et al., 2017). When it comes to negative emotionality however, the strong link between social anxiety and suppression in daily life is unsurprising, given that real-life environments such as school often involve situations in which evaluation by peers can occur (and are difficult to avoid; Spence & Rapee, 2016).

Taken together, these results add to the extensive literature identifying emotion regulation deficits as a defining feature of social anxiety (Dryman & Heimberg, 2018; Golombok et al., 2020; Jazaieri et al., 2015). The present findings portray a pattern of inner struggle with emotional experiences, together with attempts to suppress their expression, as well as extensive preoccupation with their causes and consequences.

Emotion Regulation: Intercorrelations and Links to Momentary Affect

Turning to the interrelations between emotion regulation strategies and their effects on daily affect, analyses across all four chapters further underscored their considerable impact on adolescents' emotional lives. **Chapters 1 and 2** consistently revealed significant negative associations between acceptance and both suppression and rumination, suggesting that a nonaccepting approach to emotional experiences is linked to a regulatory pattern marked by emotional concealment and rumination. These findings align with research on experiential avoidance, which posits that reluctance to engage with emotions due to them being perceived as threatening undermines their effective regulation (Kashdan et al., 2008, 2014). Similarly, across **Chapters 3 and 4**, acceptance of positive and negative emotions was associated with higher positive and lower negative affect, both between and within individuals. Adolescents who were generally more accepting of their emotions reported greater overall positive affect, and on assessment occasions when they were more accepting than their own average, they experienced more positive and less negative affect. Thus, accepting and tolerating emotions without judging them as harmful or inappropriate appeared to alleviate negative emotional experiences and promote positive ones, a pattern consistent with mindfulness-based research and other evidence showing that acceptance of emotions enhances emotional well-being (Campbell-Sills et al., 2006; Ford & Gross, 2018; Lindsay et al., 2018; Lindsay & Creswell, 2017).

Moreover, **Chapters 3 and 4** revealed interesting patterns regarding the suppression of positive and negative emotions. In **Chapter 3**, suppression of negative emotions was associated with higher negative affect at the within-person level, but not at the between-person level, indicating that suppressing negative emotions was momentarily linked to increased negative affect. Similarly, suppression of positive emotions was associated with lower positive affect within individuals, suggesting an immediate dampening of positive experiences. In **Chapter 4**, suppression of negative emotions again predicted higher momentary negative affect but showed no between-person effects. Suppression of positive emotions did not predict lower positive affect in this dataset but was instead associated with higher momentary negative affect. In sum, these findings align with prior research demonstrating the limited effectiveness of suppression as a strategy for alleviating negative affect, as well as its dampening impact on positive affect (Dryman & Heimberg, 2018; Gross, 2015). Together, these results underscore the role of expressive suppression as a mechanism underlying emotional distress, consistent with previous evidence identifying this strategy as a key contributor to heightened negative affect, as well as reduced positive affect and positive experiences characteristic of social anxiety (Blalock et al., 2016; Kashdan & Steger, 2006; O'Toole et al., 2014).

Lastly, rumination emerged as a strong predictor of negative affect at both the between-person and within-person levels in **Chapters 3 and 4**. Its role in maintaining negative affect has been demonstrated in numerous studies: For example, research has shown that following evaluative situations, extensive preoccupation with negative aspects of these events fosters negative cognitions (Blanco & Joormann, 2017; Brozovich & Heimberg, 2011), interferes with accurate performance appraisal and worsens self-evaluations (Schmitz et al., 2011), hinders the effective integration of positive feedback (Zou & Abbott, 2012), and reduces willingness to re-engage in social situations (Rowa et al., 2016). Accordingly,

rumination has further been shown to be predictive of higher negative affect and lower positive affect (McLaughlin et al., 2007).

Fears of Evaluation and Emotion Regulation

Moving beyond the associations between social anxiety and emotion regulation, the next section of this dissertation pertains to the specific relationships between fears of evaluation and the three emotion regulation strategies of interest. These fears have been conceptualized as regulatory forces that evolved to maintain group cohesion by preventing behaviors that might provoke social exclusion or conflict with higher-status group members (Gilbert, 2001, p. 2; Reichenberger & Blechert, 2018; Weeks & Howell, 2012). Although their influence on emotion regulation has rarely been examined directly, existing theory and empirical evidence suggest that these fears shape how socially anxious individuals perceive, process, and express emotionally and socially relevant information (Cook et al., 2022; Fredrick & Luebbe, 2020; Reichenberger & Blechert, 2018). Against this backdrop, we hypothesized that fears of evaluation would be associated with nonacceptance and suppression of emotions, as well as rumination.

Fears of Evaluation and Acceptance of Emotions

Regarding the association between fears of evaluation and acceptance, results across studies consistently highlighted the role of FPE. Cross-sectional analyses from **Chapter 1** revealed moderate negative associations between FPE and acceptance, whereas links with FNE were weaker. FPE also mediated the association between social anxiety and acceptance, above and beyond FNE and depressive symptoms. In the longitudinal analyses (**Chapter 2**), acceptance and FPE were prospectively associated: acceptance predicted later FPE and FPE predicted later acceptance (albeit only in the sensitivity analyses). Finally, the intensive longitudinal data in **Chapter 4** revealed that higher FPE predicted lower acceptance of both positive and negative emotions in adolescents' daily lives. FNE, however, did not emerge as a

significant predictor in these analyses. These results are thus partially in line with the assumption that fears of evaluation may be particularly potent drivers of emotional nonacceptance, as theorized by researchers that have identified evaluative contexts as facilitators of emotional nonacceptance (Kashdan et al., 2014; Rusch et al., 2012), combined with beliefs that emotional experiences should be tightly controlled and monitored, lest they invite further scrutiny (Kashdan et al., 2008; Mathews et al., 2014).

Findings from the present thesis thus highlighted FPE as a central explanatory mechanism, with its strong association with reduced acceptance of positive emotions likely reflecting its impact on how socially anxious individuals process and internalize positive social information. FPE has been shown to hinder the integration of positive feedback (Cook et al., 2019; Weeks et al., 2008), leading to the minimization or external attribution of success (Weeks, 2010). These processes are thought to be motivated by concerns about social reprisal for making a favorable impression (Weeks et al., 2015; Weeks & Howell, 2012) or about raising others' expectations (Cook, Felmingham, et al., 2024; Wilson et al., 2022).

Consequently, positive emotions arising from praise are less likely to be accepted or savored, as they are perceived as socially risky or potentially embarrassing and could attract unwanted attention or lead to conflict with the “higher ups” (Reichenberger & Blechert, 2018).

Furthermore, the contribution of FPE to lower acceptance of negative emotions, as seen in **Chapter 4**, can be interpreted by considering that situations involving positive feedback can simultaneously elicit physiological arousal and anxiety (e.g., blushing; Rusch et al., 2012), reactions that socially anxious individuals interpret as distressing and that FPE has been shown to contribute to (Weeks & Zoccola, 2015). Thus, nonacceptance of internal responses and FPE can be understood as mutually reinforcing processes. Difficulties tolerating internal experiences and signs of anxiety may contribute to heightened FPE, since positive evaluation can evoke these responses. In turn, FPE may further impede the acceptance of positive

emotional experiences elicited by positive social information, as these experiences are accompanied by fear (Kashdan et al., 2014). This bidirectional pattern was supported by the longitudinal findings in **Chapter 2**, where nonacceptance predicted later FPE and FPE predicted later nonacceptance, although the latter approached but did not reach statistical significance in the main model but did so in the sensitivity analysis.

Contrary to expectations, FNE was not significantly related to acceptance in any models that included FPE. While nonacceptance of emotions typically involves concerns that emotional experiences may elicit disapproval or negative judgment from others (Spokas et al., 2009), FPE, as assessed in this study, appears to reflect and promote a broader intolerance of emotional states across evaluative contexts, irrespective of valence. Some recent evidence suggests that the FPE scale may capture a general fear of evaluation rather than a specific fear of praise (Wilson et al., 2022). Accordingly, FPE may underlie a pervasive nonacceptance of both positive and negative emotions across diverse evaluative situations, indicating a more generalized evaluative sensitivity rather than a valence-specific process.

Fears of Evaluation and Suppression of Emotions

Turning to the expressive suppression of emotions, results from the cross-sectional, longitudinal, and intensive longitudinal analyses revealed some interesting patterns. In the structural equation model from **Chapter 1**, a serial mediation emerged from social anxiety to suppression via FPE and acceptance, once again underscoring the role of FPE in emotion regulation difficulties beyond the influence of FNE. The unique contribution of FPE was further supported in the longitudinal analyses of **Chapter 2**, which revealed significant between-person associations between FPE and suppression, whereas no such links were found for social anxiety or FNE, although the latter approached statistical significance. Finally, analysis of the ecological momentary assessment data from **Chapter 4** demonstrated that FPE predicted greater suppression of both positive and negative emotions in adolescents'

daily lives, while FNE again showed no significant associations. These findings provide support for the assumption that socially anxious individuals frequently rely on expressive suppression as a strategy to minimize visibility due to underlying fears of evaluation (Bates et al., 2021; Dryman & Heimberg, 2018; Farmer & Kashdan, 2014; Juretić et al., 2013; Kashdan & Steger, 2006) and for the first time demonstrate FPE's pervasive role in this context. In fact, similar to the feedback loop proposed for emotional acceptance, FPE and suppression appear to be associated in a dual manner: on the one hand, individuals with elevated FPE suppress emotions preemptively to prevent drawing attention to themselves (Jazaieri et al., 2015). On the other hand, once evaluation inevitably occurs, the resulting emotions, regardless of their valence, are experienced as intolerable and are suppressed to avoid any type of further attention from the social environment (Kashdan et al., 2014).

Concerning the role of FNE, a pattern similar to that observed for nonacceptance emerged in the analyses of expressive suppression. FPE was a stronger predictor of the tendency to suppress emotions, whereas FNE showed no significant association. FPE thus predicted suppression of both positive and negative emotions, reflecting apprehension about both positive (e.g., admiration, sympathy) and negative (e.g., envy, criticism) evaluation. Expressing positive emotions may invite praise or provoke resentment, while expressing negative emotions may elicit sympathy or irritation. Collectively, these findings suggest that FPE reflects a general motivation to remain inconspicuous and to avoid evaluation of any kind, consistent with contemporary conceptualizations of social anxiety such as the bivalent fear of evaluation model (Hofmann, 2025; Weeks & Howell, 2012). In contrast, FNE, in these data, appeared to represent a more specific concern with unfavorable judgments which, once FPE was controlled for, no longer predicted expressive suppression.

Fears of Evaluation and Rumination

Regarding rumination, results across the three analyses examining its association with fears of evaluation revealed notable yet partly inconsistent findings. In **Chapter 1**, the path analysis identified FNE as a mediator between social anxiety and rumination. This aligns with prior research showing that repetitive thoughts in social anxiety often focus on one's appearance and behavior in stressful social situations and how these might be negatively judged by others (Edgar et al., 2024). Evaluative situations have been identified as key triggers of rumination (Kiko et al., 2012; Makkar & Grisham, 2011), particularly when anxiety levels are heightened during these encounters (Kane & Ashbaugh, 2022). Adolescents who are especially preoccupied with how they are perceived and who fear negative judgments thus tend to report higher levels of rumination, both before and after social situations (Brozovich & Heimberg, 2008; Vassilopoulos, 2008). Relatedly, individuals with social anxiety disorder often believe that such rumination serves as a useful strategy for self-improvement and avoidance of future criticism (Yoshinaga et al., 2020), emphasizing how preoccupation with others' evaluations can perpetuate repetitive negative thinking.

Strikingly, the analyses of the EMA data revealed FPE was a significant predictor of rumination in adolescents' daily lives, whereas FNE was not. FPE can promote ruminative thinking by influencing how individuals perceive and integrate evaluative situations. For example, FPE has been shown to interfere with the processing of positive feedback by increasing arousal during social encounters regardless of feedback type (Carter et al., 2012), fostering doubts about the accuracy of positive feedback and one's own performance in evaluative contexts (Weeks et al., 2010), eliciting fears of negative social consequences following a favorable impression (Weeks et al., 2015), and generating concerns that others' expectations might rise after a positive performance (Cook, Bryant, et al., 2024). This lack of positivity has further been identified as a driver of rumination (Blanco & Joormann, 2017),

which exemplifies how these factors set the stage for rumination, as individuals high in FPE, rather than savoring positive aspects of an experience, focus on potential risks or shortcomings and dwell on them persistently. A possible explanation for the discrepancies in the findings regarding the association between FNE and rumination in **Chapters 1, 2, and 4**, beyond the earlier point that FPE may reflect a broader fear of evaluation, can be found by examining the covariates included in the structural model of **Chapter 1**. In that analysis, rumination was regressed on acceptance and depression. Because FPE is strongly tied to both constructs (see subsection “Fear of Positive Evaluation and Depression”), these covariates may have influenced the strength of the effect of FPE on rumination, revealing FNE’s impact on this regulatory strategy, above and beyond FPE, acceptance, and depressive symptoms.

Fear of Positive Evaluation and Positivity Impairment

These findings clarify how FPE disrupts emotional processing both in evaluative situations and in broader everyday life, and they further support the view that FPE may be a key mechanism underlying the positivity impairment frequently observed in social anxiety (Gilboa-Schechtman et al., 2014; Reichenberger & Blechert, 2018). A substantial body of work has shown that FPE predicts lower positive affect and higher negative affect, both following evaluative events and more generally, and is additionally associated with fewer positive social experiences (Jordan et al., 2018; Rassaby et al., 2024; Reichenberger & Blechert, 2018; Weeks et al., 2008, 2010; Weeks & Howell, 2012). The results presented in this dissertation provide further evidence for this pattern. In **Chapter 4**, FPE predicted higher general negative affect and increased negative affect specifically following positive feedback. This suggests that, in adolescence, FPE exerts both a broad influence on negative affectivity in daily life and a more immediate effect by intensifying negative emotional responses to positive evaluation.

By contrast, a direct effect of FPE on positive affect was not found in these analyses. The relationship between FPE and positive affect appears to be more nuanced than initially assumed, with several studies indicating that this association may operate primarily through pride. Pride has been identified as the discrete positive emotion closely tied to FPE (Reichenberger et al., 2015), and discomfort with expressing pride has emerged as a central reason for fearing positive evaluation (Wilson et al., 2022). Furthermore, another study investigating social anxiety's association with lower positive affect revealed that that link becomes substantially weaker once pride is statistically controlled (Cohen & Huppert, 2018). Developmental characteristics of adolescence may further contribute to this pattern; given that this period is primarily marked by heightened negative emotionality (Cracco et al., 2017), links with positive affect may be more difficult to detect. Nevertheless, FPE did show an indirect effect on positive affect through nonacceptance of positive and negative emotions. This suggests that, even though the direct effect might have been too small to emerge in these analyses, FPE does appear to play a role in reducing positive affect in youth by interfering both with the ability to accept and savor positive emotions, as well as tolerating negative emotional states. Last, the effect of FPE on negative affect was also partly mediated by rumination, further underscoring how FPE further contributes to negative emotions by disrupting the functional perception and interpretation of positive social information and fueling ruminative thoughts.

In sum, compared to FNE, FPE emerged as the stronger predictor of nonacceptance and suppression of both positive and negative emotions across both studies, as well as of rumination in the EMA study. Through these pathways, FPE indirectly predicted fluctuations in both positive and negative affect, while also showing direct associations with heightened negative affect in daily life and following positive evaluations. FNE, in contrast, did not exhibit comparable links to emotion regulation or affective outcomes across the two studies

presented in this thesis. These patterns underscore the distinct role of FPE in adolescents' emotional functioning and highlight that fears of evaluation are distinct constructs, consistent with a plethora of studies reaching the same conclusion (Cook et al., 2022; Fredrick & Luebbe, 2020; Reichenberger & Blechert, 2018). The next section therefore turns to a more detailed examination of the overlap and divergence between FNE and FPE, clarifying how these two fears operate as related yet meaningfully distinct constructs.

Fears of Positive and Negative Evaluation as Distinct Constructs: Overlap and Differences

The bivalent fear of evaluation model (Weeks & Howell, 2012) posits that FPE and FNE are correlated but distinct constructs. This distinction has been supported by psychometric analyses on their factor structures (e.g., Fergus et al., 2009; Poole et al., 2022; Weeks et al., 2010) and by studies showing that each fear exerts unique effects on social anxiety and related processes (Gao et al., 2025). The findings of this dissertation provide further support for this differentiation while also highlighting potential conceptual and measurement-related overlaps that complicate their empirical separation.

Results from both the cross-sectional and longitudinal analyses demonstrated clear differences between the two fears of evaluation regarding their effects on emotion regulation. However, with the exception of the association between FNE and rumination in **Chapter 1**, FPE appeared to be the stronger predictor of emotion regulation difficulties in our samples. This suggests that FPE not only accounts for unique variance beyond FNE (6-9%; Cook et al., 2022) but may also capture a broader fear of being evaluated, irrespective of valence. This interpretation aligns with recent evidence suggesting that FPE may, in part, reflect a generalized fear of evaluation or aversion to attention rather than a purely valence-specific fear of praise. For example, Weeks and colleagues (Weeks et al., 2010) found that individuals high in FPE reported lower preferences for both positive and negative feedback, whereas

those high in FNE specifically avoided negative feedback. Experimental studies show that FPE predicts heightened anxiety and physiological arousal in evaluative social contexts, including in response to both positive and negative feedback (Carter et al., 2012) and during peer social interactions (Karp et al., 2018), suggesting that evaluative attention of any kind may be threatening for individuals high in FPE. In an attempt to identify reasons behind FPE, Wilson and colleagues (2022) proposed that the widely used FPE scale may inadvertently measure a more general evaluative fear. Some items (e.g., “I try to choose clothes that will give people little impression of what I am like”) arguably capture avoidance of attention in general rather than discomfort with praise per se. Such measurement and conceptual overlap may partly explain why FPE, but not FNE, emerged as a consistent predictor of emotion regulation difficulties across almost all analyses. To address the issue of the FPES scale potentially blurring the distinction between the two fears, recent measurement developments have focused on more precisely separating the constructs by targeting the specific beliefs and motives underlying fears of positive evaluation. Instruments such as the Fear of Evaluation Scale (FES; Wilson et al., 2023) and the Positive Evaluation Core Beliefs Scale (PECS; Cook, Bryant, et al., 2024) may yield clearer differentiation between FPE and FNE and provide more accurate insight into their unique contributions to emotional functioning in socially anxious individuals.

Fear of Positive Evaluation and Depression

Another conceptual overlap that warrants consideration when interpreting the present findings concerns the potential role of depressive symptoms. Although research has consistently shown moderate associations between FPE and depression, the prevailing view is that FPE is primarily an aspect of social anxiety. For instance, FPE has been linked to depressive symptoms in both adults (Weeks et al., 2012) and adolescents (Lipton et al., 2014; Olino et al., 2023), but these studies emphasize that this overlap likely reflects shared

underlying distress. Similarly, FPE has been shown to predict social anxiety, but not depression, in both cross-sectional (Weeks, 2015) and longitudinal analyses (Peker & Akkuş, 2024).

Some studies, however, suggest a more complex picture. Jordan and colleagues (2018) found that FPE predicted depressive symptoms indirectly via anhedonia, reflecting an inability to experience or sustain pleasure. Rassaby and colleagues (2024) likewise reported elevated FPE in individuals with comorbid social anxiety and major depression, and to a lesser degree in those with depression alone, leading the authors to propose that although FPE seems to be uniquely elevated in SAD, it may have greater transdiagnostic relevance than previously assumed. Supporting this view, Reichenberger and colleagues (2024) found in an EMA study that most associations between FPE and momentary affect disappeared once depression was statistically controlled for, suggesting that there is significant shared variance between these two constructs.

FPE thus appears to be relevant to both social anxiety and depression, but its manifestation may differ across these conditions. This distinction may be reflected in the mechanism through which positive social outcomes are disqualified, which seems to take distinct forms in individuals primarily high in social anxiety compared to those with depression. For instance, Weeks and colleagues (2012) found strong associations between FPE and two subtypes of the *disqualification of positive social outcomes* (DPSO; Weeks, 2010): DPSO-self and DPSO-other. DPSO-self refers to the process by which individuals downplay or dismiss their own role in the success of a positive social event, whereas DPSO-other involves attributing that success to others. Although the authors initially emphasized the unique association between FPE and DPSO-self, interpreting it as a mechanism for avoiding the appearance of excessive self-promotion, later work suggested a more nuanced picture: While the overall tendency to disqualify positive social outcomes may be more characteristic

of social anxiety, DPSO-self appeared to be a feature more closely linked to depression (Weeks, 2015). These differences can be understood through the lens of self-verification theory (Swann, 2012), which proposes that individuals with a negatively skewed self-concept process feedback in ways that preserve consistency between their self-view and external evaluations. Such individuals tend to feel more comfortable with feedback that confirms their negative self-perceptions and to dismiss information that contradicts them. These self-verification processes, observed in both depression and social anxiety (Howarth & Forbes, 2015; Swann, 2012), may help explain the overlap between FPE, social anxiety, and depression, particularly when the rejection of positive information stems from a mismatch between external feedback and an individual's internal self-concept.

In sum, the relationship between FPE, social anxiety, and depression likely depends on the motives underlying the rejection of positive evaluation. While FPE remains conceptually and empirically most central to social anxiety (Weeks & Howell, 2012), it may also be part of depressive processes (Rassaby et al., 2024). Understanding the psychological mechanisms that fuel FPE and unpacking these differences may help clarify when and how it functions as a social anxiety-specific versus transdiagnostic mechanism, when and how it is triggered and what outcomes it leads to, questions that represent an important direction for future research.

Implications for Research and Future Directions

Although FPE has gradually solidified its status as a core component of social anxiety that should not be overlooked (Hofmann, 2025), the mechanisms that give rise to it, and how they can affect psychopathology, have yet to be sufficiently explored. Initial theoretical considerations regarding the origins of FPE stem from Alden and Wallace's (1995) work on the dysfunctional processing of positive social information in socially anxious individuals and were viewed mainly as future fears of negative evaluation. Within the psycho-

evolutionary framework (Gilbert, 2001), FPE reflects fears that being viewed as “too good” may evoke envy or rivalry, making positive evaluation socially threatening (Weeks et al., 2015). Supporting this perspective, individuals high in FPE report concerns about social reprisal following success, often minimizing or disqualifying positive outcomes (Cook et al., 2019). Importantly, such fears presumably presuppose the presence of others during the receipt of feedback, a feature that is explicitly captured by some FPE scale items (e.g., “I would rather receive a compliment from someone when that person and I were alone than in the presence of others”) and may therefore account for part of the association between FPE and social anxiety.

Other explanations point to fears that praise will raise future expectations that one may fail to meet. Research shows that individuals high in FPE worry that positive feedback will lead to higher expectations (e.g., “if I succeed now, others will expect more from me”) (Wilson et al., 2022; Cook et al., 2024), suggesting a pathway tied more to anticipated future evaluation than immediate social consequences and echoing Alden and Wallace’s initial thoughts (1995). Relatedly, negative self-concepts may also play an important role in some forms of FPE, in that discomfort following positive feedback may not arise from fear of social consequences but from the incongruence between the feedback and one’s self-concept (e.g., “I don’t deserve this praise”), as outlined in self-verification theory (Swann, 2012). Importantly, these beliefs may thus elicit discomfort even in private contexts, linking FPE to concerns about self-esteem or competence rather than fears of social reprisal.

Finally, an additional explanatory lens may be provided by the concept of anxiety sensitivity. From this standpoint, it is not necessarily the positive evaluation itself that is distressing, but rather the physiological arousal that accompanies receiving attention, such as increased heart rate, blushing, or somatic tension, regardless of whether the feedback is positive or negative (Carter et al., 2012; Weeks et al., 2010). Empirical evidence supports this

idea, showing heightened (self-reported) physiological reactivity and arousal in socially anxious individuals when exposed to positive feedback (Karp et al., 2018; Lipton et al., 2020). Thus, individuals high in FPE may interpret the physical sensations accompanying praise as threatening, reinforcing avoidance of evaluative situations altogether.

Consequently, the ways in which individuals regulate the emotions elicited in response to evaluation may also differ. Concerns about social reprisal may encourage the suppression of positive emotions to avoid appearing boastful; difficulties accepting positive emotions may reflect low self-esteem or incongruence between feedback and self-concept; and fears of heightened future expectations may promote rumination and anticipatory anxiety about upcoming social situations. Lastly, although not directly examined in this dissertation, these patterns could also have implications for improving our understanding of cognitive reappraisal in social anxiety: If reappraisal is defined as reinterpreting a situation to reduce distress, then diminishing the significance of a positive social experience to alleviate the discomfort elicited by the receipt of praise may indeed constitute successful regulation in the short term, consistent with the notion that DPSO may serve as a safety behavior aimed at attenuating FPE (Weeks & Howell, 2012). This could indicate that socially anxious individuals may in fact be proficient users of cognitive reappraisal, albeit in service of maladaptive goals. Uncovering the mechanisms that give rise to fears of evaluation and how they differentially influence emotion regulation across situations thus represents a promising direction for future research. Such work could contribute to the expansion of theoretical models aiming to clarify the processes that unfold within socially anxious individuals when faced with social evaluation.

Source and target of evaluation

Another factor that may shape how individuals experience and process positive social feedback but has received limited empirical attention is the social context of that feedback.

Experimental research has investigated FPE mainly within two contexts, i.e., performance-based situations such as public speaking or evaluative speech tasks (e.g., Barber & Moscovitch, 2016; Lipton et al., 2020; McEvoy et al., 2023; Weeks & Zoccola, 2015) and social interaction paradigms involving peers (e.g., Karp et al., 2018; Rassaby et al., 2024; Szollos et al., 2019). These differences add an important layer of complexity to understanding FPE in the context of social anxiety. On the one hand, feedback pertaining to a performance may be processed differently than feedback arising from social exchanges, particularly among individuals who mainly experience elevated fear in evaluative performance contexts (e.g., the performance-only subtype of social anxiety; APA, 2013). Additionally, the identity and perceived authority of the feedback provider likely influence emotional and physiological responses: in speech-based paradigms, evaluative comments are often delivered by experimenters or judges, figures who may be perceived as higher status or evaluative authorities, whereas in interaction-based paradigms, feedback is typically provided by peers, who may represent more socially salient evaluators. Importantly, these two feedback dimensions, i.e., the target (performance vs. social interaction) and the source of evaluation (authority vs. peer), may also interact. Positive feedback about a performance from an authority figure could have a markedly different impact than positive feedback about physical appearance from a peer, each triggering distinct emotional and cognitive responses in socially anxious individuals. Consequently, the affective response to feedback may vary substantially depending on these contextual differences, an aspect of evaluation fears that remains insufficiently explored.

In sum, multiple factors appear to shape the way FPE operates in affected individuals. The underlying reasons for fearing positive evaluation, the source of the feedback, and the target of evaluation may all interact to produce different emotional outcomes. Future studies should more clearly distinguish between these factors to advance our understanding of how

these processes unfold in laboratory settings and in everyday life. For instance, experimental paradigms that systematically manipulate or EMA designs that assess the source of evaluation (authority vs. peer), the target of feedback (performance vs. appearance or personality trait), and the anticipation of future feedback, combined with scales that capture additional information about the beliefs driving FPE (e.g., Positive Evaluation Core Beliefs Scale; Cook, Bryant, et al., 2024), could provide valuable insights into how these interacting factors shape affective and behavioral responses of different individuals across different contexts.

Practical Implications: The Role of FPE in the Treatment of Social Anxiety

Although social anxiety is one of the most common anxiety disorders in adolescence (Ollendick et al., 2014), its treatment outcomes and long-term prognosis remain relatively poor. Compared to other anxiety disorders, SAD is marked by low remission rates (Bruce et al., 2005) and a strong tendency to persist into adulthood (Knappe et al., 2015), where it often contributes to the onset of comorbid conditions such as depression, other anxiety disorders, and substance use disorders (Spence & Rapee, 2016).

Researchers have argued that the relatively modest rates of treatment success in SAD may, in part, be explained by the disruptive influence of FPE (Weeks & Howell, 2014). Several mechanisms have been proposed to account for this. First, a defining feature of cognitive-behavioral treatments for social anxiety is exposure therapy, in which individuals are gradually encouraged to enter and remain in anxiety-provoking social situations to generate corrective learning experiences that counteract maladaptive beliefs and avoidance behaviors (Radtke et al., 2020). However, these beneficial effects of exposure may be blunted in individuals high in FPE, as positive outcomes are often discounted or disqualified (Weeks, 2010). Similarly, positive feedback or praise delivered by the therapist after successful exposure exercises may also backfire, especially when individuals fear that such feedback will raise the therapist's expectations, thereby increasing anxiety about future performance

(Reichenberger et al., 2018). This is particularly relevant given that exposure hierarchies typically require patients to progress from less to more anxiety-provoking tasks, a process that inherently involves feedback, encouragement from the therapist, and an increase in expectations (Radtke et al., 2020). For individuals high in FPE, this may inadvertently validate their belief that better performance leads to pressure to maintain success (Cook, 2024). As such, an interaction following a successful exposure task that appears positive to the therapist may elicit anxiety, which may not only be disqualifying and suppressed, making it less likely to be identified in the moment, but also become a source of overthinking and rumination later on. These processes may be especially pronounced in the early stages of treatment, before a strong therapeutic alliance has been established and before a socially anxious individual begins to perceive the therapeutic context as safe. In this way, an otherwise effective intervention could inadvertently contribute to disengagement or even dropout. Given that the development of the therapeutic alliance has been found to exhibit saw-tooth patterns in the context of the treatment of social anxiety (i.e., increases within sessions followed by decreases between sessions), and that the therapeutic alliance can be a strong predictor of treatment outcomes (Kivity et al., 2022), considering and attending to FPE during these initial sessions may improve therapeutic results by strengthening the working alliance between the client/patient and the therapist. Relatedly, a recent study revealed that suppressing positive emotions had a negative effect on the therapeutic bond, further exemplifying how FPE and the associated suppression may hinder therapeutic progress (Hoffman et al., 2024). Therefore, failing to recognize and address FPE when planning or administering treatment may undermine its effectiveness (Weeks & Howell, 2014). Although research is still emerging, recent evidence indicates that FPE indeed both mediates and moderates the efficacy of cognitive-behavioral therapy for SAD (Morrison et al., 2024).

Furthermore, it is important to consider the role of FPE in the effective treatment of emotion dysregulation in social anxiety. Emotion regulation difficulties in social anxiety respond well to cognitive-behavioral therapy and mindfulness-based stress reduction, which typically focus on reducing expressive suppression and rumination while increasing acceptance (Dryman & Heimberg, 2018; Goldin et al., 2014; Jazaieri et al., 2015). Preventive programs for children and adolescents, such as the FRIENDS program (Barrett et al., 2006), have likewise been effective in promoting adaptive emotion regulation through training in emotional awareness, acceptance, and reappraisal (Golombek et al., 2020). The findings from this thesis may provide additional support for such approaches and offer a complementary perspective that helps refine how these interventions can be applied. Specifically, attending to FPE and understanding the mechanisms driving emotional nonacceptance, suppression, and rumination could enhance the effectiveness of existing interventions and lead to improved outcomes.

Interestingly, Weeks and colleagues created a brief FPE-specific treatment protocol (2020) that aimed to address these issues. The intervention comprised two sessions focusing on various FPE-related components, including psychoeducation and cognitive restructuring, followed by in-session and in-vivo exposure tasks involving self-promotion and the receipt and acceptance of compliments. Although results are preliminary and larger scale studies are still needed, participants who completed this protocol reported reductions not only in FPE-related concerns but also in overall social anxiety symptoms. These findings suggest that explicitly targeting this dimension of social anxiety, alongside FNE, may enhance treatment outcomes for socially anxious individuals. Moreover, a more nuanced understanding of the mechanisms underlying FPE, as outlined above, could help tailor exposure exercises, such as those proposed in this protocol, to more precisely target each individual's specific fear domains, thereby increasing the likelihood of therapeutic success.

Strengths and Limitations

The findings presented in this dissertation extend the existing knowledge base on social anxiety and emotion regulation and offer the first systematic examination of the associations between fears of evaluation and emotion regulation in adolescence. In doing so, they illuminate previously only hypothesized links and provide further support for the emerging conceptualization of social anxiety as a condition characterized by an overarching fear of evaluation (Hofmann, 2025). Regarding social anxiety, **Chapter 2** analyzed its associations with emotion regulation within a longitudinal framework. These findings offer valuable insights from a developmental perspective, showing how changes in social anxiety can both predict and be predicted by emotion regulation deficits in adolescence. This advances our understanding of affective difficulties in adolescence and how they contribute to the development and maintenance of social anxiety. **Chapter 3** demonstrated how these processes unfold in daily life, placing everyday experiences at the forefront and contributing to knowledge on social anxiety related processes in the natural environment of adolescents. Regarding fears of evaluation, **Chapters 1, 2, and 4** further showed how these specific aspects of social anxiety can differentially drive these deficits cross sectionally, longitudinally, and in daily life. The present scientific contributions therefore collectively provide a comprehensive examination of emotion regulation in adolescent social anxiety, integrating multiple methodological approaches that test these links across different situations and time frames.

Methodologically, the analyses across all chapters employed contemporary and appropriate techniques aligned with the respective levels of analysis. In **Chapter 1**, a structural equation model was specified, and the robustness of its results was tested across different samples, covariate structures, and estimation methods. This small-scale multiverse analysis reduced potential researcher degrees-of-freedom bias (Simmons et al., 2011) and

strengthened confidence in the conclusions drawn. **Chapter 2** applied Random Intercept Cross-Lagged Panel Models, which advance beyond standard panel analyses that capture only between-person effects by separating variance into within-person and between-person components, thereby clarifying temporal processes at the individual level (Mulder & Hamaker, 2021). **Chapters 3 and 4** tested the hypotheses in adolescents' daily lives using ecological momentary assessment and multilevel structural equation modeling, enhancing ecological validity and correcting for sources of bias that can arise in traditional multilevel modeling (Sadikaj et al., 2021).

Finally, by providing the datasets, code, and analytic outputs necessary to reproduce the findings presented in this dissertation, this work demonstrates a strong commitment to open science practices. Whenever possible, these materials were made publicly accessible, allowing interested researchers to scrutinize methodological choices, reproduce results, and build upon the presented evidence. In addition, both empirical studies were preregistered, reducing researcher degrees of freedom and strengthening the transparency of the scientific process.

Limitations

While the studies contribute substantially to the literature, several methodological and conceptual limitations warrant consideration when interpreting the findings.

Sampling

A first major limitation pertains to the fact that no clinical interviews were conducted, meaning that social anxiety severity was inferred from symptom questionnaires rather than clinician-verified diagnostic criteria. This limits the extent to which the findings can be generalized to adolescents with formally diagnosed social anxiety. Although social anxiety is often conceptualized dimensionally (Spence & Rapee, 2016), and subclinical levels can be highly distressing (Epkins & Heckler, 2011), several studies suggest that symptom severity

and clinical status can shape some of the associations examined in this dissertation. One example concerns the role of FPE in adolescent social anxiety: Longitudinal research indicates that FPE can be predicted by social anxiety (Fredrick & Luebbecke, 2024), suggesting that as symptoms intensify during adolescence, fears of positive evaluation may become increasingly reinforced. Similarly, the link between social anxiety and reduced positive affect appears to differ depending on clinical status. Anderson and colleagues (2010) found that the reduction in positive affect is more pronounced among clinically diagnosed adolescents, implying that the positivity impairment associated with social anxiety may emerge most strongly once symptom severity surpasses a certain threshold. Taken together, these findings underscore that the absence of diagnostic assessment in the present studies limits the ability to determine whether the observed patterns reflect processes that generalize across the full severity spectrum or whether certain effects would differ in adolescents who meet diagnostic criteria for social anxiety disorder.

Another limitation involves the composition and representativity of the samples. Across both studies, the samples consisted predominantly of female adolescents. This imbalance limits the generalizability of the results to male adolescents and other gender identities, and it may have influenced the observed levels of social anxiety and emotion regulation difficulties, as adolescent girls typically report higher internalizing symptoms, including social anxiety, than boys (Knappe et al., 2015; Levkovich et al., 2025) and show differential emotion regulatory difficulties (Cracco et al., 2017; Sanchis-Sanchis et al., 2020). Especially the first study (i.e., **Chapter 1** and **2**), was conducted with a sample that had very strong female representation (87%).

Furthermore, both studies relied on convenience and self-selected community samples, which likely overrepresented adolescents experiencing elevated distress or with a particular interest in mental health. This was reflected in the unusually high proportions of

participants scoring above the clinical cut-off for social anxiety (72% for study 1 and 53% for study 2, respectively; cut-off = 24; Ranta et al., 2007), rates that clearly exceeded those typically reported even in post-pandemic research (Ranta et al., 2024). One likely explanation, especially for **Chapters 1 and 2**, concerns the employed recruitment strategy that relied heavily on social media advertisements. Although this approach is efficient, it is also vulnerable to self-selection bias (Smith et al., 2023; Whitaker et al., 2017). Even without targeting specific keywords, platform algorithms may have preferentially displayed the study invitation to adolescents whose online behavior indicated heightened interest in psychological content (Smith et al., 2023). In addition, fears of positive and negative evaluation have been linked to problematic smartphone use (Wolniewicz et al., 2018), which may have further increased the likelihood that adolescents with elevated social evaluative concerns were recruited because they tended to spend more time on their mobile phones.

The context and timing of data collection also merit attention. The longitudinal data of Study 1 were collected during the COVID-19 pandemic. Although most pandemic related measures, such as lockdowns and school closures, had been lifted before data collection started, the fact remains that this was a period marked by an elevated degree of social isolation and elevated uncertainty. These circumstances may have amplified social anxiety, rumination, and general emotional distress, thereby affecting the observed associations (Fredrick et al., 2024; Kindred & Bates, 2023; Larsen et al., 2023).

Concerning the cultural context, all samples were drawn from Western European adolescents, limiting cultural generalizability, since evaluative concerns are known to vary across cultures. For instance, East Asian cultural contexts place a stronger emphasis on norm adherence, hierarchical social structures, and maintaining group harmony, which can shape the manifestation and phenomenology of social fears and social anxiety (Krieg & Xu, 2023). These cultural differences are reflected in the presence of a culturally specific form of social

anxiety observed in Japan and South Korea, known as *taijin kyofusho* (Choy et al., 2008; Hofmann et al., 2010). While *taijin kyofusho* shares with Western forms of social anxiety the fear of being observed by others and the avoidance of social situations, the primary concern of one of its subtypes (offensive subtype; *jikoshu-kyofu*; Hofmann et al., 2010) centers not on embarrassing oneself but on embarrassing or offending others, reflecting an allocentric evaluative focus. Additionally, a meta-analysis has shown that East Asian participants report higher levels of social anxiety compared to Western Europeans (Woody et al., 2015), while differences in fears of evaluation have been reported as well, with fears of positive evaluation appearing more pronounced in individualistic societies such as Australia and the United States (Okawa et al., 2021). Moreover, norms regarding emotion regulation have also been found to differ across cultures. For example, individuals of Asian heritage have been found to report higher habitual expressive suppression (Ford & Mauss, 2015), and importantly, the psychological consequences of this strategy may also vary across cultural contexts. For example, Chinese participants have reported valuing expressive suppression more than Western participants because it is viewed as supporting interpersonal harmony (Wei et al., 2013), and the association between suppression and depressive symptoms was found to be weaker among Asian heritage individuals (Kwon et al., 2013). Similar patterns have been found for rumination: although Asian Americans report engaging in more rumination than European Americans, its associations with anxious, and depressive symptoms were found to be weaker among Asian Americans (Chang et al., 2010). In sum, cultural context plays an important role in shaping the phenomenology of social anxiety and the frequency, motives, and consequences associated with different emotion regulation strategies. These cultural influences highlight the importance of considering sociocultural background in both research and clinical practice and illustrate the limited generalizability of the findings presented in this thesis to adolescents of non-European heritage.

Finally, the studies focused exclusively on mid-to-late adolescence, a developmental stage marked by heightened social sensitivity but also substantial heterogeneity in emotional and cognitive maturity. Research indicates that the pace of development can vary considerably across individuals, which can influence the strength of the observed effects (Guyer et al., 2016; Vandenbroucke et al., 2018). For instance, the association between social threat and physiological arousal has been shown to vary as a function of pubertal development in socially anxious youth (van den Bos et al., 2017). Pubertal development may also shape the intensity of perceived social fears, with sexual maturation playing an important role in this context (Westenberg et al., 2007). Consequently, the extent to which the observed associations can be applied to early adolescence or emerging adulthood remains unclear, highlighting the need of large-scale longitudinal studies that span multiple developmental stages and systematically account for differences in pubertal development and maturation.

Deviations from the Preregistered Protocols

Although the studies were preregistered and most materials were made openly available, the preregistrations were not always followed precisely, with Study 1 warranting particular consideration. In **Chapter 1**, the final cross sectional path model diverged slightly from the model outlined in the preregistration. Specifically, the direction of certain effects was adjusted to achieve a theoretically coherent model. While these modifications did not change the central aim of examining the associations among FPE, FNE, and emotion regulation, they nonetheless represent a deviation from the preregistered analytic plan. In **Chapter 2**, additional departures from the preregistration became necessary as the longitudinal analyses were conducted. The preregistered plan outlined the intended use of Random Intercept Cross-Lagged Panel Models, but several analytic challenges emerged, including multicollinearity and model convergence issues, and addressing those required substantial modifications to the original plan.

Measures

Another major limitation concerns the reliance on self-report measures across both studies. Although widely used in psychological research, self-reports are prone to common-method variance, social desirability bias, and inaccuracies in introspection, which may inflate observed associations and reduce data validity (Podsakoff et al., 2024). The exclusive reliance on adolescents' self-evaluations neglects external perspectives, such as parent, peer, or teacher reports, as well as behavioral or physiological indices of emotional processes. Given that differences between self-reported and observed social anxiety symptoms have been demonstrated in adolescents (Botkin et al., 2021; Fredrick et al., 2019), this could have influenced the findings presented in this thesis. Future studies would benefit from multi-informant and multimethod approaches to capture the multifaceted nature of social anxiety and emotion regulation.

Moreover, the operationalization and assessment of emotion regulation across both studies require careful consideration. Beyond the challenges inherent to self-report methodology (Podsakoff et al., 2024), the strategies of interest were assessed at different temporal scales, each carrying distinct implications for interpreting this thesis' findings. In **Chapters 1 and 2**, emotion regulation was measured at the trait level, capturing general, habitual tendencies rather than situational or context dependent processes. Although widely used, this approach conceptualizes emotion regulation as a relatively stable characteristic instead of a dynamic process that fluctuates across situations (Aldao et al., 2015). By contrast, in **Chapters 3 and 4**, emotion regulation was assessed in adolescents' daily lives and natural environments. While this method offers greater ecological validity (Shiffman et al., 2008), state based assessments do not always converge with trait based measures (McMahon & Naragon-Gainey, 2020), potentially limiting comparability across the two levels of measurement. A further issue arising from this difference in measurement concerns

how the strategies were modeled in relation to each other. In **Chapter 1**, acceptance was specified as a mediator between social anxiety, fears of evaluation, and the other strategies, implying that an accepting stance toward internal experiences precedes or facilitates suppression and rumination. That being said, it is important to clarify that these associations were tested cross-sectionally, a method that inherently does not allow conclusions about the directionality of effects. In **Chapter 2**, the longitudinal model included bidirectional prospective associations among social anxiety and the three strategies, consistent with evidence that psychological distress and emotion dysregulation can amplify one another over time (e.g., Demkowicz et al., 2024). In the EMA studies (**Chapters 3 and 4**), however, all three strategies were modeled as occurring simultaneously and independently, as momentary emotion regulation processes, including how strategies are selected, implemented, and monitored, remain insufficiently understood (Petrova & Gross, 2023). As a result, this approach did not capture potential sequential regulatory chains in daily life, such as one strategy triggering or escalating another, as described in the literature on emotion polyregulation (Ford et al., 2019). Such an analysis would require a different experience sampling approach, item wording, and modeling approach. Finally, the adaptivity or functionality of emotion regulation highly depends on the context and specific goal of the person employing the strategy (Aldao et al., 2015), something that was also not explicitly assessed in the analyses presented here. For example, although the dampening of positive emotions via expressive suppression is generally viewed as a maladaptive process (Dryman & Heimberg, 2018), concealing positive emotions in a school setting during class may constitute an adaptive rather than dysfunctional response. These considerations highlight that interpreting the presented associations between fears of evaluation, social anxiety, and emotion regulation requires careful attention to how these constructs are measured and to the contexts in which they are assessed, each of which carries its own constraints.

A further limitation concerning the operationalization of the constructs examined in this dissertation relates to the measure used to assess rumination, the Perseverative Thinking Questionnaire (PTQ; Ehring et al., 2011). This instrument was developed to capture thoughts that are “repetitive, intrusive, difficult to disengage from, perceived as unproductive, and capturing mental capacity” (Ehring, 2021, p. 441). Crucially, the PTQ does not assess thoughts tied specifically to social situations. Instead, it asks participants to report how they typically think about negative experiences or problems more broadly. As such, it does not directly capture post-event processing, the form of rumination considered most central to social anxiety. Instruments such as the Post-Event Processing Questionnaire (PEPQ; Fehm et al., 2008) address this more directly by requiring respondents to answer items while thinking about one of several predefined social situations selected from established diagnostic tools. Despite this limitation, measures of general ruminative tendencies have been widely used in social anxiety research with both adults and adolescents (e.g., Brozovich et al., 2015; Klemanski et al., 2017), supporting the comparability and transferability of the present findings to the broader literature on rumination in social anxiety.

Conclusion

In this dissertation, the links between fears of positive and negative evaluation and three emotion regulation strategies central to social anxiety were examined using cross sectional, longitudinal, and daily life methods. The findings show that fear of positive evaluation is a particularly influential factor in adolescence, predicting reduced emotional acceptance, greater expressive suppression, and increased rumination. Acceptance and rumination also accounted for its indirect associations with lower positive and higher negative affect in daily life. Both fears of evaluation further emerged as distinct mediators between social anxiety and emotion regulation. Emotional acceptance additionally predicted later fear of positive evaluation, with trends in the data suggesting a possible bidirectional

pattern over time. Together, these results highlight the importance of addressing fear of positive evaluation in research and treatment focused on adolescent social anxiety. Future studies should investigate additional factors shaping evaluation fears, including pertinent core beliefs and the specific contexts in which evaluation occurs. Broadening the conceptualization of evaluation fears during this critical developmental period is essential for improving prevention efforts and refining interventions, with the broader aim of enhancing treatment outcomes before social anxiety chronifies and contributes to wider difficulties in adolescence and emerging adulthood.

References

- Abler, B., & Kessler, H. (2009). Emotion Regulation Questionnaire – Eine deutschsprachige Fassung des ERQ von Gross und John [Emotion Regulation Questionnaire – A German Version of the ERQ by Gross and John]. *Diagnostica*, 55(3), 144–152. <https://doi.org/10.1026/0012-1924.55.3.144>
- Adams, G. C., Balbuena, L., Meng, X., & Asmundson, G. J. G. (2016). When social anxiety and depression go together: A population study of comorbidity and associated consequences. *Journal of Affective Disorders*, 206, 48–54. <https://doi.org/10.1016/j.jad.2016.07.031>
- Aderka, I. M., Hofmann, S. G., Nickerson, A., Hermesh, H., Gilboa-Schechtman, E., & Marom, S. (2012). Functional impairment in social anxiety disorder. *Journal of Anxiety Disorders*, 26(3), 393–400. <https://doi.org/10.1016/j.janxdis.2012.01.003>
- Akinwande, M. O., Dikko, H. G., & Samson, A. (2015). Variance inflation factor: As a condition for the inclusion of suppressor variable(s) in regression analysis. *Open Journal of Statistics*, 05(07), 754–767. <https://doi.org/10.4236/ojs.2015.57075>
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, 30(2), 217–237. <https://doi.org/10.1016/j.cpr.2009.11.004>
- Aldao, A., Sheppes, G., & Gross, J. J. (2015). Emotion regulation flexibility. *Cognitive Therapy and Research*, 39(3), 263–278. <https://doi.org/10.1007/s10608-014-9662-4>
- Alden, L. E., & Wallace, S. T. (1995). Social phobia and social appraisal in successful and unsuccessful social interactions. *Behaviour Research and Therapy*, 33(5), 497–505. [https://doi.org/10.1016/0005-7967\(94\)00088-2](https://doi.org/10.1016/0005-7967(94)00088-2)

- Alden, L. E., Taylor, C. T., Mellings, T. M. J. B., & Laposa, J. M. (2008). Social anxiety and the interpretation of positive social events. *Journal of Anxiety Disorders*, 22(4), 577–590. <https://doi.org/10.1016/j.janxdis.2007.05.007>
- Altan-Atalay, A., & Ray-Yol, E. (2023). Interpersonal and intrapersonal emotion regulation strategies: How do they interact and influence fear of negative evaluation? *Current Psychology*, 42(6), 4498–4503. <https://doi.org/10.1007/s12144-021-01810-8>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Association.
<https://doi.org/10.1176/appi.books.9780890425596>
- Anderson, E. R., Veed, G. J., Inderbitzen-Nolan, H. M., & Hansen, D. J. (2010). An evaluation of the applicability of the tripartite constructs to social anxiety in adolescents. *Journal of Clinical Child & Adolescent Psychology*, 39(2), 195–207.
<https://doi.org/10.1080/15374410903532643>
- Asbrand, J., Blechert, J., Nitschke, K., Tuschen-Caffier, B., & Schmitz, J. (2017). Aroused at home: Basic autonomic regulation during orthostatic and physical activation is altered in children with social anxiety disorder. *Journal of Abnormal Child Psychology*, 45(1), 143–155. <https://doi.org/10.1007/s10802-016-0147-7>
- Aune, T., Nordahl, H. M., & Beidel, D. C. (2022). Social anxiety disorder in adolescents: Prevalence and subtypes in the Young-HUNT3 study. *Journal of Anxiety Disorders*, 87, 102546. <https://doi.org/10.1016/j.janxdis.2022.102546>
- Azoulay, R., & Gilboa-Schechtman, E. (2024). CyberStatus: Responses to status manipulation and fears of positive and negative evaluations. *Journal of Anxiety Disorders*, 103, 102845. <https://doi.org/10.1016/j.janxdis.2024.102845>
- Badra, M., Schulze, L., Becker, E. S., Vrijnsen, J. N., Renneberg, B., & Zetsche, U. (2017). The association between ruminative thinking and negative interpretation bias in social

anxiety. *Cognition and Emotion*, 31(6), 1234–1242.

<https://doi.org/10.1080/02699931.2016.1193477>

Barber, K. C., & Moscovitch, D. A. (2016). Reactions to prospective positive vs. negative evaluation in the laboratory: A comparison of high and low socially anxious participants. *Journal of Experimental Psychopathology*, 7(4), 619–631.

<https://doi.org/10.5127/jep.055116>

Barrett, P. M., Farrell, L. J., Ollendick, T. H., & Dadds, M. (2006). Long-Term outcomes of an Australian universal prevention trial of anxiety and depression symptoms in children and youth: An evaluation of the Friends program. *Journal of Clinical Child & Adolescent Psychology*, 35(3), 403–411.

https://doi.org/10.1207/s15374424jccp3503_5

Bates, G. W., Elphinstone, B., & Whitehead, R. (2021). Self-compassion and emotional regulation as predictors of social anxiety. *Psychology and Psychotherapy: Theory, Research and Practice*, 94(3), 426–442. <https://doi.org/10.1111/papt.12318>

Bautista, C. L., & Hope, D. A. (2015). Fear of negative evaluation, social anxiety and response to positive and negative online social cues. *Cognitive Therapy and Research*, 39(5), 658–668. <https://doi.org/10.1007/s10608-015-9687-3>

Bean, C. A. L., & Ciesla, J. A. (2024). Ruminative variability predicts increases in depression and social anxiety. *Cognitive Therapy and Research*, 48(3), 511–525.

<https://doi.org/10.1007/s10608-023-10451-z>

Blalock, D. V., Kashdan, T. B., & Farmer, A. S. (2016). Trait and daily emotion regulation in social anxiety disorder. *Cognitive Therapy and Research*, 40(3), 416–425.

<https://doi.org/10.1007/s10608-015-9739-8dr>

Blanco, I., & Joormann, J. (2017). Examining facets of depression and social anxiety: The relation among lack of positive affect, negative Cognitions, and emotion

Dysregulation. *The Spanish Journal of Psychology*, 20, E51.

<https://doi.org/10.1017/sjp.2017.43>

Boemo, T., Nieto, I., Vazquez, C., & Sanchez-Lopez, A. (2022). Relations between emotion-regulation strategies and affect in daily life: A systematic review and meta-analysis of studies using ecological momentary assessments. *Neuroscience & Biobehavioral Reviews*, 139, Article 104747. <https://doi.org/10.1016/j.neubiorev.2022.104747>

Bolger, N., & Laurenceau, J.-P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research*. The Guilford Press.

Botkin, T. N., Makol, B. A., Racz, S. J., & De Los Reyes, A. (2021). Multi-informant assessments of adolescents' fears of negative and positive evaluation: Criterion and incremental validity in relation to observed behavior. *Journal of Psychopathology and Behavioral Assessment*, 43(1), 58–69. <https://doi.org/10.1007/s10862-020-09855-y>

Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. Guilford Press.

Brown, T. A., Chorpita, B. F., & Barlow, D. H. (1998). Structural relationships among dimensions of the DSM-IV anxiety and mood disorders and dimensions of negative affect, positive affect, and autonomic arousal. *Journal of Abnormal Psychology*, 107(2), 179–192. <https://doi.org/10.1037/0021-843X.107.2.179>

Brozovich, F. A., & Heimberg, R. G. (2008). An analysis of post-event processing in social anxiety disorder. *Clinical Psychology Review*, 28(6), 891–903. <https://doi.org/10.1016/j.cpr.2008.01.002>

Brozovich, F. A., & Heimberg, R. G. (2013). Mental imagery and post-event processing in anticipation of a speech performance among socially anxious individuals. *Behavior Therapy*, 44(4), Article 4. <https://doi.org/10.1016/j.beth.2013.07.001>

Brozovich, F. A., Goldin, P., Lee, I., Jazaieri, H., Heimberg, R. G., & Gross, J. J. (2015). The effect of rumination and reappraisal on social anxiety symptoms during cognitive-

- behavioral therapy for social anxiety disorder. *Journal of Clinical Psychology*, 71(3), 208–218. <https://doi.org/10.1002/jclp.22132>
- Brozovich, F., & Heimberg, R. G. (2008). An analysis of postevent processing in social anxiety disorder. *Clinical Psychology Review*, 28(6), 891–903. <https://doi.org/10.1016/j.cpr.2008.01.002>
- Brozovich, F., & Heimberg, R. G. (2011). The relationship of post-event processing to self-evaluation of performance in social anxiety. *Behavior Therapy*, 42(2), 224–235. <https://doi.org/10.1016/j.beth.2010.08.005>
- Bruce, S. E., Yonkers, K. A., Otto, M. W., Eisen, J. L., Weisberg, R. B., Pagano, M., Shea, M. T., & Keller, M. B. (2005). Influence of psychiatric comorbidity on recovery and recurrence in generalized anxiety disorder, social phobia, and panic disorder: A 12-year prospective study. *American Journal of Psychiatry*, 162(6), 1179–1187. <https://doi.org/10.1176/appi.ajp.162.6.1179>
- Burstein, M., He, J.-P., Kattan, G., Albano, A. M., Avenevoli, S., & Merikangas, K. R. (2011). Social phobia and subtypes in the national comorbidity survey–adolescent supplement: Prevalence, correlates, and comorbidity. *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(9), 870–880. <https://doi.org/10.1016/j.jaac.2011.06.005>
- Campbell-Sills, L., Barlow, D. H., Brown, T. A., & Hofmann, S. G. (2006). Effects of suppression and acceptance on emotional responses of individuals with anxiety and mood disorders. *Behaviour Research and Therapy*, 44(9), 1251–1263. <https://doi.org/10.1016/j.brat.2005.10.001>
- Carpenter, J. K., Andrews, L. A., Witcraft, S. M., Powers, M. B., Smits, J. A. J., & Hofmann, S. G. (2018). Cognitive behavioral therapy for anxiety and related disorders: A meta-

- analysis of randomized placebo-controlled trials. *Depression and Anxiety*, 35(6), 502–514. <https://doi.org/10.1002/da.22728>
- Carter, M. M., Sbrocco, T., Riley, S., & Mitchell, F. E. (2012). Comparing fear of positive evaluation to fear of negative evaluation in predicting anxiety from a social challenge. *Journal of Experimental Psychopathology*, 3(5), 782–793. <https://doi.org/10.5127/jep.022211>
- Chandler, J., & Shapiro, D. (2016). Conducting clinical research using crowdsourced convenience samples. *Annual Review of Clinical Psychology*, 12(1), 53–81. <https://doi.org/10.1146/annurev-clinpsy-021815-093623>
- Chang, E. C., Tsai, W., & Sanna, L. J. (2010). Examining the relations between rumination and adjustment: Do ethnic differences exist between Asian and European Americans? *Asian American Journal of Psychology*, 1(1), 46–56. <https://doi.org/10.1037/a0018821>
- Charania, I., & Krishnaveti, H. (2021). Relationship between social appearance anxiety, fear of negative evaluation and emotion regulation in adolescents and young adults. *International Journal of Indian Psychology*, 9(2). <https://doi.org/10.25215/0902.157>
- Chiu, K., Clark, D. M., & Leigh, E. (2021). Cognitive predictors of adolescent social anxiety. *Behaviour Research and Therapy*, 137, 103801. <https://doi.org/10.1016/j.brat.2020.103801>
- Choy, Y., Schneier, F. R., Heimberg, R. G., Oh, K.-S., & Liebowitz, M. R. (2008). Features of the offensive subtype of Taijin-Kyofu-Sho in US and Korean patients with DSM-IV social anxiety disorder. *Depression and Anxiety*, 25(3), 230–240. <https://doi.org/10.1002/da.20295>

- Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, & F. R. Schneier (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 69–93). The Guilford Press.
- Cloos, L., Ceulemans, E., & Kuppens, P. (2023). Development, validation, and comparison of self-report measures for positive and negative affect in intensive longitudinal research. *Psychological Assessment*, 35(3), 189–204. <https://doi.org/doi: 10.1037/pas0001200>
- Cohen, L., & Huppert, J. D. (2018). Positive emotions and social Anxiety: The unique role of pride. *Cognitive Therapy and Research*, 42(4), 524–538.
<https://doi.org/10.1007/s10608-018-9900-2>
- Connor, K. M., Davidson, J. R. T., Churchill, L. E., Sherwood, A., Weisler, R. H., & Foa, E. (2000). Psychometric properties of the Social Phobia Inventory (SPIN): New self-rating scale. *British Journal of Psychiatry*, 176(4), 379–386.
<https://doi.org/10.1192/bjp.176.4.379>
- Cook, S. I., Bryant, C., & Phillips, L. J. (2024). Development and validation of the positive evaluation core beliefs scale for social anxiety. *Journal of Anxiety Disorders*, 105, 102890. <https://doi.org/10.1016/j.janxdis.2024.102890>
- Cook, S. I., Felmingham, K. L., & Phillips, L. J. (2024). Relationships between core-beliefs, bivalent fear of evaluation, and social anxiety symptoms: A structural equation model. *Clinical Psychologist*, 0(0), 1–10. <https://doi.org/10.1080/13284207.2024.2371330>
- Cook, S. I., Meyer, D., & Knowles, S. R. (2019). Relationships between psychoevolutionary fear of evaluation, cognitive distortions, and social anxiety symptoms: A preliminary structural equation model. *Australian Journal of Psychology*, 71(2), 92–99. Scopus.
<https://doi.org/10.1111/ajpy.12215>

- Cook, S. I., Moore, S., Bryant, C., & Phillips, L. J. (2022). The role of fear of positive evaluation in social anxiety: A systematic review and meta-analysis. *Clinical Psychology: Science and Practice*, 29(4), 352. <https://doi.org/10.1037/cps0000082>
- Cracco, E., Goossens, L., & Braet, C. (2017). Emotion regulation across childhood and adolescence: Evidence for a maladaptive shift in adolescence. *European Child & Adolescent Psychiatry*, 26(8), 909–921. <https://doi.org/10.1007/s00787-017-0952-8>
- Daniel, K. E., Goodman, F. R., Beltzer, M. L., Daros, A. R., Boukhechba, M., Barnes, L. E., & Teachman, B. A. (2020). Emotion malleability beliefs and emotion experience and regulation in the daily lives of people with high trait social anxiety. *Cognitive Therapy and Research*, 44(6), 1186–1198. <https://doi.org/10.1007/s10608-020-10139-8>
- De Castella, K., Goldin, P., Jazaieri, H., Ziv, M., Heimberg, R. G., & Gross, J. J. (2014). Emotion beliefs in social anxiety disorder: Associations with stress, anxiety, and well-being. *Australian Journal of Psychology*, 66(2), 139–148. <https://doi.org/10.1111/ajpy.12053>
- De Castella, K., Platow, M. J., Tamir, M., & Gross, J. J. (2018). Beliefs about emotion: Implications for avoidance-based emotion regulation and psychological health. *Cognition and Emotion*, 32(4), 773–795. <https://doi.org/10.1080/02699931.2017.1353485>
- DeepL. (2025). *DeepL Translator* [Computer software]. DeepL SE. <https://www.deepl.com>
- Demkowicz, O., Panayiotou, M., Qualter, P., & Humphrey, N. (2024). Longitudinal relationships across emotional distress, perceived emotion regulation, and social connections during early adolescence: A developmental cascades investigation. *Development and Psychopathology*, 36(2), 562–577. <https://doi.org/10.1017/S0954579422001407>

- Di Tata, D., Bianchi, D., & Laghi, F. (2024). Peer victimization and social anxiety in adolescence: A comparison between migrant and native students in Italy. *Frontiers in Psychology, 15*, 1346373. <https://doi.org/10.3389/fpsyg.2024.1346373>
- Dixon, M. L., Moodie, C. A., Goldin, P. R., Farb, N., Heimberg, R. G., & Gross, J. J. (2020). Emotion regulation in social anxiety Disorder: Reappraisal and acceptance of negative self-beliefs. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 5*(1), 119–129. <https://doi.org/10.1016/j.bpsc.2019.07.009>
- Dryman, M. T., & Heimberg, R. G. (2015). Examining the relationships among social anxiety, fears of evaluation, and interpretation Bias. *Cognitive Therapy and Research, 39*(5), 646–657. <https://doi.org/10.1007/s10608-015-9694-4>
- Dryman, M. T., & Heimberg, R. G. (2018). Emotion regulation in social anxiety and depression: A systematic review of expressive suppression and cognitive reappraisal. *Clinical Psychology Review, 65*, 17–42. <https://doi.org/10.1016/j.cpr.2018.07.004>
- Edgar, E. V., Richards, A., Castagna, P. J., Bloch, M. H., & Crowley, M. J. (2024). Post-event rumination and social anxiety: A systematic review and meta-analysis. *Journal of Psychiatric Research, 173*, 87–97. <https://doi.org/10.1016/j.jpsychires.2024.03.013>
- Ehring, T. (2021). Thinking too much: Rumination and psychopathology. *World Psychiatry, 20*(3), 441–442. <https://doi.org/10.1002/wps.20910>
- Ehring, T., Zetsche, U., Weidacker, K., Wahl, K., Schönfeld, S., & Ehlers, A. (2011). The Perseverative Thinking Questionnaire (PTQ): Validation of a content-independent measure of repetitive negative thinking. *Journal of Behavior Therapy and Experimental Psychiatry, 42*(2), 225–232. <https://doi.org/10.1016/j.jbtep.2010.12.003>
- Eisner, L. R., Johnson, S. L., & Carver, C. S. (2009). Positive affect regulation in anxiety disorders. *Journal of Anxiety Disorders, 23*(5), 645–649. <https://doi.org/10.1016/j.janxdis.2009.02.001>

- Epkins, C., & Heckler, D. (2011). Integrating etiological models of social anxiety and depression in youth: Evidence for a cumulative interpersonal risk model. *Clinical Child and Family Psychology Review*, 14, 329–376. <https://doi.org/10.1007/s10567-011-0101-8>
- Ernst, J., Ollmann, T. M., König, E., Pieper, L., Voss, C., Hoyer, J., Rückert, F., Knappe, S., & Beesdo-Baum, K. (2023). Social anxiety in adolescents and young adults from the general population: An epidemiological characterization of fear and avoidance in different social situations. *Current Psychology*, 42(32), 28130–28145. <https://doi.org/10.1007/s12144-022-03755-y>
- Essau, C. A., Conradt, J., & Petermann, F. (1999). Frequency and comorbidity of social phobia and social fears in adolescents. *Behaviour Research and Therapy*, 37, 831–843. [https://doi.org/10.1016/s0005-7967\(98\)00179-x](https://doi.org/10.1016/s0005-7967(98)00179-x)
- Evans, R., Clark, D. M., & Leigh, E. (2021). Are young people with primary social anxiety disorder less likely to recover following generic CBT compared to young people with other primary anxiety disorders? A systematic review and meta-analysis. *Behavioural and Cognitive Psychotherapy*, 49(3), 352–369. <https://doi.org/10.1017/S135246582000079X>
- Everaert, J., Bronstein, M. V., Castro, A. A., Cannon, T. D., & Joormann, J. (2020). When negative interpretations persist, positive emotions don't! Inflexible negative interpretations encourage depression and social anxiety by dampening positive emotions. *Behaviour Research and Therapy*, 124, 103510. <https://doi.org/10.1016/j.brat.2019.103510>
- Farmer, A. S., & Kashdan, T. B. (2012). Social anxiety and emotion regulation in daily life: Spillover effects on positive and negative social events. *Cognitive Behaviour Therapy*, 41(2), 152–162. <https://doi.org/10.1080/16506073.2012.666561>

- Farmer, A. S., & Kashdan, T. B. (2014). Affective and self-esteem instability in the daily lives of people with generalized social anxiety disorder. *Clinical Psychological Science*, 2(2), 187–201. <https://doi.org/10.1177/2167702613495200>
- Fehm, L., Hoyer, J., Schneider, G., Lindemann, C., & Klusmann, U. (2008). Assessing post-event processing after social situations: A measure based on the cognitive model for social phobia. *Anxiety, Stress & Coping*, 21(2), 129–142. <https://doi.org/10.1080/10615800701424672>
- Fehm, L., Schneider, G., & Hoyer, J. (2007). Is post-event processing specific for social anxiety? *Journal of Behavior Therapy and Experimental Psychiatry*, 38(1), Article 1. <https://doi.org/10.1016/j.jbtep.2006.02.004>
- Fergus, T. A., Valentiner, D. P., McGrath, P. B., Stephenson, K., Gier, S., & Jencius, S. (2009). The Fear of Positive Evaluation Scale: Psychometric properties in a clinical sample. *Journal of Anxiety Disorders*, 23(8), 1177–1183. <https://doi.org/10.1016/j.janxdis.2009.07.024>
- Figueiredo, D. V., Alves, F., & Vagos, P. (2024). Psychological inflexibility explains social anxiety over time: A mediation analyses with a clinical adolescent sample. *Current Psychology*, 43(5), 4404–4415. <https://doi.org/10.1007/s12144-023-04650-w>
- Fisher, P. H., Masia-Warner, C., & Klein, R. G. (2004). Skills for social and academic success: A school-based intervention for social anxiety disorder in adolescents. *Clinical Child and Family Psychology Review*, 7(4), 241–249. <https://doi.org/10.1007/s10567-004-6088-7>
- Flynn, A. J., & Yoon, K. L. (2025). Post-event processing in social anxiety: A scoping review. *Journal of Anxiety Disorders*, 109, 102947. <https://doi.org/10.1016/j.janxdis.2024.102947>

- Ford, B. Q., & Gross, J. J. (2018). Emotion regulation: Why beliefs matter. *Canadian Psychology / Psychologie Canadienne*, 59(1), 1–14.
<https://doi.org/10.1037/cap0000142>
- Ford, B. Q., & Gross, J. J. (2019). Why beliefs about emotion matter: An emotion-regulation perspective. *Current Directions in Psychological Science*, 28(1), 74–81.
<https://doi.org/10.1177/0963721418806697>
- Ford, B. Q., & Mauss, I. B. (2015). Culture and emotion regulation. *Current Opinion in Psychology*, 3, 1–5. <https://doi.org/10.1016/j.copsyc.2014.12.004>
- Ford, B. Q., Gross, J. J., & Gruber, J. (2019). Broadening our field of view: The role of emotion polyregulation. *Emotion Review*, 11(3), 197–208.
<https://doi.org/10.1177/1754073919850314>
- Ford, B. Q., Lam, P., John, O. P., & Mauss, I. B. (2018). The psychological health benefits of accepting negative emotions and thoughts: Laboratory, diary, and longitudinal evidence. *Journal of Personality and Social Psychology*, 115(6), 1075–1092.
<https://doi.org/10.1037/pspp0000157>
- Fredrick, J. W., & Luebbe, A. M. (2020). Fear of positive evaluation and social anxiety: A systematic review of trait-based findings. *Journal of Affective Disorders*, 265, 157–168. <https://doi.org/10.1016/j.jad.2020.01.042>
- Fredrick, J. W., & Luebbe, A. M. (2021). A multi-method, multi-informant test of maternal emotion socialization in relation to adolescent fears off social evaluation. *Research on Child and Adolescent Psychopathology*. <https://doi.org/10.1007/s10802-021-00786-0>
- Fredrick, J. W., & Luebbe, A. M. (2024). Prospective associations between fears of negative evaluation, fears of positive evaluation, and social anxiety symptoms in adolescence. *Child Psychiatry & Human Development*, 55(1), 195–205.
<https://doi.org/10.1007/s10578-022-01396-7>

- Fredrick, J. W., Nagle, K., Langberg, J. M., Dvorsky, M. R., Breaux, R., & Becker, S. P. (2024). Rumination as a mechanism of the longitudinal association between COVID-19-related stress and internalizing symptoms in adolescents. *Child Psychiatry & Human Development*, 55(2), 531–540. <https://doi.org/10.1007/s10578-022-01435-3>
- Fredrick, J. W., Parsons, E. M., Sarfan, L. D., Dreyer-Oren, S., & Luebke, A. M. (2019). Examining the relation between adolescent social anxiety and positive affect regulation: Self-report vs. observation. *Child Psychiatry & Human Development*, 50(5), 764–775. <https://doi.org/10.1007/s10578-019-00881-w>
- Gao, W., Li, Y., Yuan, J., & He, Q. (2025). The shared and distinct mechanisms underlying fear of evaluation in social anxiety: The roles of negative and positive evaluation. *Depression and Anxiety*, 2025(1). <https://doi.org/10.1155/da/9559056>
- Geukens, F., Maes, M., Spithoven, A., Pouwels, J. L., Danneel, S., Cillessen, A. H. N., van den Berg, Y. H. M., & Goossens, L. (2022). Changes in adolescent loneliness and concomitant changes in fear of negative evaluation and self-esteem. *International Journal of Behavioral Development*, 46(1), 10–17. <https://doi.org/10.1177/0165025420958194>
- Geyer, E. C., Fua, K. C., Daniel, K. E., Chow, P. I., Bonelli, W., Huang, Y., Barnes, L. E., & Teachman, B. A. (2018). I did OK, but did I like it? Using ecological momentary assessment to examine perceptions of social interactions associated with severity of social anxiety and depression. *Behavior Therapy*, 49(6), 866–880. <https://doi.org/10.1016/j.beth.2018.07.009>
- Gilbert, P. (2001). Evolution and social anxiety. *Psychiatric Clinics of North America*, 24(4), 723–751. [https://doi.org/10.1016/S0193-953X\(05\)70260-4](https://doi.org/10.1016/S0193-953X(05)70260-4)
- Gilboa-Schechtman, E., Franklin, M. E., & Foa, E. B. (2000). Anticipated reactions to social events: Differences among individuals with generalized social phobia, obsessive

- compulsive disorder, and nonanxious controls. *Cognitive Therapy and Research*, 24(6), 731–746. <https://doi.org/10.1023/A:1005595513315>
- Gilboa-Schechtman, E., Shachar, I., & Sahar, Y. (2014). Positivity impairment as a broad-based feature of social anxiety. In J. W. Weeks (Ed.), *The Wiley Blackwell handbook of social anxiety disorder* (pp. 409–432). Wiley Blackwell.
<https://doi.org/10.1002/9781118653920.ch19>
- Gökdağ, C., Peker, M., & Akkuş, K. (2024). Expressive suppression and cognitive reappraisal pathways from social anxiety to depression: A six-month longitudinal study. *Personality and Individual Differences*, 229, 112757.
<https://doi.org/10.1016/j.paid.2024.112757>
- Goldin, P. R., Jazaieri, H., & Gross, J. J. (2014). Emotion regulation in social anxiety disorder. In *Social Anxiety: Clinical, developmental, and social perspectives* (pp. 511–529). Academic Press. <https://doi.org/10.1016/B978-0-12-394427-6.00017-0>
- Goldin, P. R., Moodie, C. A., & Gross, J. J. (2019). Acceptance versus reappraisal: Behavioral, autonomic, and neural effects. *Cognitive, Affective & Behavioral Neuroscience*, 19(4), 927–944. <https://doi.org/10.3758/s13415-019-00690-7>
- Golombok, K., Lidle, L., Tuschen-Caffier, B., Schmitz, J., & Vierrath, V. (2020). The role of emotion regulation in socially anxious children and adolescents: A systematic review. *European Child & Adolescent Psychiatry*, 29(11), 1479–1501.
<https://doi.org/10.1007/s00787-019-01359-9>
- Gómez-Ortiz, O., Roldán, R., Ortega-Ruiz, R., & Garcia-Lopez, L. (2018). Social anxiety and psychosocial adjustment in adolescents: Relation with peer Victimization, self-esteem and emotion regulation. *Child Indicators Research*, 11.
<https://doi.org/10.1007/s12187-017-9506-3>

- Gómez-Ortiz, O., Romera, E. M., Jiménez-Castillejo, R., Ortega-Ruiz, R., & García-López, L. J. (2019). Parenting practices and adolescent social anxiety: A direct or indirect relationship? *International Journal of Clinical and Health Psychology*, 19(2), 124–133. <https://doi.org/10.1016/j.ijchp.2019.04.001>
- Gómez-Ortiz, O., Romera, E. M., Ortega-Ruiz, R., Cabello, R., & Fernández-Berrocal, P. (2016). Analysis of emotion regulation in spanish adolescents: Validation of the emotion regulation questionnaire. *Frontiers in Psychology*, 6. <https://doi.org/10.3389/fpsyg.2015.01959>
- Goodman, F. R., Daniel, K. E., Eldesouky, L., Brown, B. A., & Kneeland, E. T. (2021). How do people with social anxiety disorder manage daily stressors? Deconstructing emotion regulation flexibility in daily life. *Journal of Affective Disorders Reports*, 6, 100210. <https://doi.org/10.1016/j.jadr.2021.100210>
- Goodman, F. R., Kashdan, T. B., & İmamoğlu, A. (2021). Valuing emotional control in social anxiety disorder: A multimethod study of emotion beliefs and emotion regulation. *Emotion*, 21(4), 842–855. <https://doi.org/10.1037/emo0000750>
- Gräfe, K., Zipfel, S., Herzog, W., & Löwe, B. (2004). Screening psychischer Störungen mit dem “Gesundheitsfragebogen für Patienten (PHQ-D)“. *Diagnostica*, 50(4), 171–181. <https://doi.org/10.1026/0012-1924.50.4.171>
- Gramer, M., Schild, E., & Lurz, E. (2012). Objective and perceived physiological arousal in trait social anxiety and post-event processing of a prepared speaking task. *Personality and Individual Differences*, 53(8), 980–984. <https://doi.org/10.1016/j.paid.2012.07.013>
- Graser, J., Heimlich, C., Kelava, A., Hofmann, S. G., Stangier, U., & Schreiber, F. (2019). Erfassung der Emotionsregulation bei Jugendlichen anhand des „Affective Style

Questionnaire – Youth (ASQ-Y)“. *Diagnostica*, 65(1), 49–59.

<https://doi.org/10.1026/0012-1924/a000210>

- Griffith, J. M., Farrell-Rosen, T. S., & Hankin, B. L. (2023). Daily life positive affect regulation in early adolescence: Associations with symptoms of depression. *Emotion*, 23(3), 664–677. <https://doi.org/10.1037/emo0001129>
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271–299. <https://doi.org/10.1037/1089-2680.2.3.271>
- Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, 26(1), 1–26. <https://doi.org/10.1080/1047840X.2014.940781>
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348–362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Gross, J. T., & Cassidy, J. (2019). Expressive suppression of negative emotions in children and adolescents: Theory, data, and a guide for future research. *Developmental Psychology*, 55(9), 1938–1950. <https://doi.org/10.1037/dev0000722>
- Guyer, A. E., Silk, J. S., & Nelson, E. E. (2016). The neurobiology of the emotional adolescent: From the inside out. *Neuroscience & Biobehavioral Reviews*, 70, 74–85. <https://doi.org/10.1016/j.neubiorev.2016.07.037>
- Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, 20(1), 102–116. <https://doi.org/10.1037/a0038889>
- Hambour, V. K., Zimmer-Gembeck, M. J., Clear, S., Rowe, S., & Avdagic, E. (2018). Emotion regulation and mindfulness in adolescents: Conceptual and empirical connection and associations with social anxiety symptoms. *Personality and Individual Differences*, 134, 7–12. <https://doi.org/10.1016/j.paid.2018.05.037>

- Hauffe, V., Vierrath, V., Tuschen-Caffier, B., & Schmitz, J. (2024). Daily-life reactivity and emotion regulation in children with social anxiety disorder. *Journal of Anxiety Disorders*, 106, 102907. <https://doi.org/10.1016/j.janxdis.2024.102907>
- Hayduk, L. A., & Littvay, L. (2012). Should researchers use single indicators, best indicators, or multiple indicators in structural equation models? *BMC Medical Research Methodology*, 12(1), 159. <https://doi.org/10.1186/1471-2288-12-159>
- Hayes, A. F., & Rockwood, N. J. (2020). Conditional process analysis: Concepts, computation, and advances in the modeling of the contingencies of mechanisms. *American Behavioral Scientist*, 64(1), 19–54. <https://doi.org/10.1177/0002764219859633>
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). The Guilford Press.
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology*, 64(6), 1152–1168. <https://doi.org/10.1037/0022-006X.64.6.1152>
- Heerey, E. A., & Kring, A. M. (2007). Interpersonal consequences of social anxiety. *Journal of Abnormal Psychology*, 116(1), 125–134. <https://doi.org/10.1037/0021-843X.116.1.125>
- Heimberg, R. G., & Magee, L. (2014). Social anxiety disorder. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders: A step-by-step treatment manual* (5th ed., pp. 114–154). The Guilford Press.
- Heimberg, R. G., Brozovich, F. A., & Rapee, R. M. (2014). A cognitive-behavioral model of social anxiety disorder. In S. G. Hofmann & P. M. DiBartolo (Eds.), *Social Anxiety:*

- Clinical, developmental, and social perspectives* (3rd ed., pp. 705–728). Academic Press. <https://doi.org/10.1016/B978-0-12-394427-6.00024-8>
- Henricks, L. A., Lange, W.-G., Luijten, M., Berg, Y. H. M. van den, Stoltz, S. E. M. J., Cillessen, A. H. N., & Becker, E. S. (2023). The longitudinal link between popularity, likeability, fear of negative evaluation and social avoidance across adolescence. *Journal of Research on Adolescence*, 33(3), 720–734. <https://doi.org/10.1111/jora.12833>
- Herbert, J. D., Forman, E. M., Kaye, J. L., Gershkovich, M., Goetter, E., Yuen, E. K., Glassman, L., Goldstein, S., Hitchcock, P., Tronieri, J. S., Berkowitz, S., & Marando-Blanck, S. (2018). Randomized controlled trial of acceptance and commitment therapy versus traditional cognitive behavior therapy for social anxiety disorder: Symptomatic and behavioral outcomes. *Journal of Contextual Behavioral Science*, 9, 88–96. <https://doi.org/10.1016/j.jcbs.2018.07.008>
- Hodson, K. J., McManus, F. V., Clark, D. M., & Doll, H. (2008). Can Clark and Wells' (1995) cognitive model of social phobia be applied to young people? *Behavioural and Cognitive Psychotherapy*, 36(4), 449–461. <https://doi.org/10.1017/S1352465808004487>
- Hoffman, S. N., Stein, M. B., & Taylor, C. T. (2024). The relationship between expressive suppression, therapeutic bond, and treatment outcomes of a positive affect intervention for adults with anxiety and/or depression. *Cognitive Behaviour Therapy*, 53(4), 394–408. <https://doi.org/10.1080/16506073.2024.2321891>
- Hofmann, S. G. (2007). Cognitive factors that maintain social anxiety disorder: A comprehensive model and its treatment implications. *Cognitive Behaviour Therapy*, 36(4), 193–209. <https://doi.org/10.1080/16506070701421313>

- Hofmann, S. G. (2014). Interpersonal emotion regulation model of mood and anxiety disorders. *Cognitive Therapy and Research*, 38(5), 483–492.
<https://doi.org/10.1007/s10608-014-9620-1>
- Hofmann, S. G. (2025). Fear of positive evaluation and the bivalent fear of evaluation model of social anxiety: An Integration. *Journal of Anxiety Disorders*, 111, 102986.
<https://doi.org/10.1016/j.janxdis.2025.102986>
- Hofmann, S. G., & Kashdan, T. B. (2010). The Affective Style Questionnaire: Development and psychometric properties. *Journal of Psychopathology and Behavioral Assessment*, 32(2), 255–263. <https://doi.org/10.1007/s10862-009-9142-4>
- Hofmann, S. G., Anu Asnaani, M. A., & Hinton, D. E. (2010). Cultural aspects in social anxiety and social anxiety disorder. *Depression and Anxiety*, 27(12), 1117–1127.
<https://doi.org/10.1002/da.20759>
- Hofmann, S. G., Carpenter, J. K., & Curtiss, J. (2016). Interpersonal Emotion Regulation Questionnaire (IERQ): Scale development and psychometric characteristics. *Cognitive Therapy and Research*, 40(3), 341–356. <https://doi.org/10.1007/s10608-016-9756-2>
- Howarth, M. P. A., & Forbes, M. (2015). Examining self-verification processes in social anxiety. *The Cognitive Behaviour Therapist*, 8.
<https://doi.org/10.1017/s1754470x15000070>
- Hoyle, R. H. (2012). *Handbook of Structural Equation Modeling*. The Guilford Press.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>

- Huang, T., & Wang, W. (2024). Relationship between fear of evaluation, ambivalence over emotional expression, and self-compassion among university students. *BMC Psychology*, 12(1). <https://doi.org/10.1186/s40359-024-01629-5>
- Hudson, J. L., Rapee, R. M., Lyneham, H. J., McLellan, L. F., Wuthrich, V. M., & Schniering, C. A. (2015). Comparing outcomes for children with different anxiety disorders following cognitive behavioural therapy. *Behaviour Research and Therapy*, 72, 30–37. <https://doi.org/10.1016/j.brat.2015.06.007>
- IBM Corp. (2021). *IBM SPSS Statistics* (Version 28.0) [Computer software]. IBM Corp.
- IBM Corp. (2022). *IBM SPSS Statistics* (Version 29.0) [Computer software]. IBM Corp.
- IBM Corp. (2024). *IBM SPSS Statistics* (Version 30.0) [Computer software]. IBM Corp.
- Jazaieri, H., Morrison, A. S., Goldin, P. R., & Gross, J. J. (2015). The role of emotion and emotion regulation in social anxiety disorder. *Current Psychiatry Reports*, 17(1), Article 1. <https://doi.org/10.1007/s11920-014-0531-3>
- Johnson, A. R., Bank, S. R., Summers, M., Hyett, M. P., Erceg-Hurn, D. M., Kyron, M. J., & McEvoy, P. M. (2020). A longitudinal assessment of the bivalent fear of evaluation model with social interaction anxiety in social anxiety disorder. *Depression and Anxiety*, 37(12), 1253–1260. <https://doi.org/10.1002/da.23099>
- Jordan, D. G., Winer, E. S., Salem, T., & Kilgore, J. (2018). Longitudinal evaluation of anhedonia as a mediator of fear of positive evaluation and other depressive symptoms. *Cognition and Emotion*, 32(7), 1437–1447. <https://doi.org/10.1080/02699931.2017.1289895>
- Jose, P. E., Wilkins, H., & Spendelow, J. S. (2012). Does social anxiety predict rumination and co-rumination among adolescents? *Journal of Clinical Child & Adolescent Psychology*, 41(1), 86–91. <https://doi.org/10.1080/15374416.2012.632346>

- Juretić, J., Živčić-Bećirevic, I., Juretić, J., & Živčić-Bećirevic, I. (2013). Social anxiety, beliefs About expressing emotions and experiencing positive emotions. In *New Insights into Anxiety Disorders*. IntechOpen. <https://doi.org/10.5772/55110>
- Kane, L., & Ashbaugh, A. R. (2022). Ecological momentary assessment of post-event processing in between two speech tasks: Relationships with cognitive and affective factors involved in the maintenance of social anxiety. *Behaviour Research and Therapy*, 159, 104208. <https://doi.org/10.1016/j.brat.2022.104208>
- Kane, L., Simioni, O., & Ashbaugh, A. R. (2023). A retrospective study of negative and positive post-event processing following stressful and pleasant social interactions. *Journal of Behavior Therapy and Experimental Psychiatry*, 80, 101795. <https://doi.org/10.1016/j.jbtep.2022.101795>
- Karp, J. N., Makol, B. A., Keeley, L. M., Qasmieh, N., Deros, D. E., Weeks, J. W., Racz, S. J., Lipton, M. F., Augenstein, T. M., & De Los Reyes, A. (2018). Convergent, incremental, and criterion-related validity of multi-informant assessments of adolescents' fears of negative and positive evaluation. *Clinical Psychology & Psychotherapy*, 25(2), 217–230. <https://doi.org/10.1002/cpp.2156>
- Kashdan, T. B. (2007). Social anxiety spectrum and diminished positive experiences: Theoretical synthesis and meta-analysis. *Clinical Psychology Review*, 27(3), 348–365. <https://doi.org/10.1016/j.cpr.2006.12.003>
- Kashdan, T. B., & Breen, W. E. (2008). Social anxiety and positive emotions: A prospective examination of a self-regulatory model with tendencies to suppress or express emotions as a moderating variable. *Behavior Therapy*, 39(1), 1–12. <https://doi.org/10.1016/j.beth.2007.02.003>
- Kashdan, T. B., & Collins, R. L. (2010). Social anxiety and the experience of positive emotion and anger in everyday life: An ecological momentary assessment approach.

Anxiety, Stress, & Coping, 23(3), 259–272.

<https://doi.org/10.1080/10615800802641950>

Kashdan, T. B., & Steger, M. F. (2006). Expanding the topography of social anxiety: An experience-sampling assessment of positive emotions, positive events, and emotion suppression. *Psychological Science*, 17(2), 120–128. <https://doi.org/10.1111/j.1467-9280.2006.01674.x>

Kashdan, T. B., Farmer, A. S., Adams, L. M., Ferrisizidis, P., McKnight, P. E., & Nezlek, J. B. (2013). Distinguishing healthy adults from people with social anxiety disorder: Evidence for the value of experiential avoidance and positive emotions in everyday social interactions. *Journal of Abnormal Psychology*, 122(3), 645–655. <https://doi.org/10.1037/a0032733>

Kashdan, T. B., Goodman, F. R., Machell, K. A., Kleiman, E. M., Monfort, S. S., Ciarrochi, J., & Nezlek, J. B. (2014). A contextual approach to experiential avoidance and social anxiety: Evidence from an experimental interaction and daily interactions of people with social anxiety disorder. *Emotion*, 14(4), 769–781. <https://doi.org/10.1037/a0035935>

Kashdan, T. B., Zvolensky, M. J., & McLeish, A. C. (2008). Anxiety sensitivity and affect regulatory strategies: Individual and interactive risk factors for anxiety-related symptoms. *Journal of Anxiety Disorders*, 22(3), 429–440. <https://doi.org/10.1016/j.janxdis.2007.03.011>

Kaurin, A., & Kolar, D. R. (2022). Ambulantes Assessment in der klinischen Kinder- und Jugendpsychologie. [Ambulatory assessment in clinical child and adolescent psychology.]. *Die Psychotherapie*, 67(6), 486–492. <https://doi.org/10.1007/s00278-022-00605-x>

- Keil, V., Asbrand, J., Tuschen-Caffier, B., & Schmitz, J. (2017). Children with social anxiety and other anxiety disorders show similar deficits in habitual emotional regulation: Evidence for a transdiagnostic phenomenon. *European Child & Adolescent Psychiatry*, 26(7), 749–757. <https://doi.org/10.1007/s00787-017-0942-x>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry*, 62(6), 593. <https://doi.org/10.1001/archpsyc.62.6.593>
- Kessler, R. C., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Wittchen, H. (2012). Twelve-month and lifetime prevalence and lifetime morbid risk of anxiety and mood disorders in the United States. *International Journal of Methods in Psychiatric Research*, 21(3), 169–184. <https://doi.org/10.1002/mpr.1359>
- Kiko, S., Stevens, S., Mall, A. K., Steil, R., Bohus, M., & Hermann, C. (2012). Predicting post-event processing in social anxiety disorder following two prototypical social situations: State variables and dispositional determinants. *Behaviour Research and Therapy*, 50(10), 617–626. <https://doi.org/10.1016/j.brat.2012.06.001>
- Kindred, R., & Bates, G. (2023). The influence of the COVID-19 pandemic on social anxiety: A systematic review. *International Journal of Environmental Research and Public Health*, 20(3), 2362. <https://doi.org/10.3390/ijerph20032362>
- Kivity, Y., & Huppert, J. D. (2018). Are individuals diagnosed with social anxiety disorder successful in regulating their emotions? A mixed-method investigation using self-report, subjective, and event-related potentials measures. *Journal of Affective Disorders*, 236, 298–305. <https://doi.org/10.1016/j.jad.2018.02.029>
- Kivity, Y., Strauss, A. Y., Elizur, J., Weiss, M., Cohen, L., & Huppert, J. D. (2022). Patterns of alliance development in cognitive behavioral therapy versus attention bias

- modification for social anxiety disorder: Sawtooth patterns and sudden gains. *Journal of Clinical Psychology*, 78(2), 122–136. <https://doi.org/10.1002/jclp.23219>
- Klemanski, D. H., Curtiss, J., McLaughlin, K. A., & Nolen-Hoeksema, S. (2017). Emotion regulation and the transdiagnostic role of repetitive negative thinking in adolescents with social anxiety and depression. *Cognitive Therapy and Research*, 41(2), 206–219. <https://doi.org/10.1007/s10608-016-9817-6>
- Kley, H., Tuschen-Caffier, B., & Heinrichs, N. (2012). Safety behaviors, self-focused attention and negative thinking in children with social anxiety disorder, socially anxious and non-anxious children. *Journal of Behavior Therapy and Experimental Psychiatry*, 43(1), 548–555. <https://doi.org/10.1016/j.jbtep.2011.07.008>
- Knappe, S., Beesdo-Baum, K., Fehm, L., Stein, M. B., Lieb, R., & Wittchen, H.-U. (2011). Social fear and social phobia types among community youth: Differential clinical features and vulnerability factors. *Journal of Psychiatric Research*, 45(1), 111–120. <https://doi.org/10.1016/j.jpsychires.2010.05.002>
- Knappe, S., Sasagawa, S., & Creswell, C. (2015). Developmental epidemiology of social anxiety and social phobia in adolescents. In K. Ranta, A. M. La Greca, L.-J. Garcia-Lopez, & M. Marttunen (Eds.), *Social anxiety and phobia in adolescents* (pp. 39–70). Springer International Publishing. https://doi.org/10.1007/978-3-319-16703-9_3
- Kobylińska, D., & Kusev, P. (2019). Flexible emotion regulation: How situational demands and individual differences influence the effectiveness of regulatory strategies. *Frontiers in Psychology*, 10. <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00072>
- Krieg, A., & Xu, Y. (2023). “Unpacking” cultural differences in social anxiety between Japanese and European Americans: The roles of threat appraisal and attentional bias. *Frontiers in Psychology*, 14, 1132918. <https://doi.org/10.3389/fpsyg.2023.1132918>

- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606–613.
<https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Kwon, H., Yoon, K. L., Joormann, J., & Kwon, J.-H. (2013). Cultural and gender differences in emotion regulation: Relation to depression. *Cognition & Emotion*, 27(5), 769–782.
<https://doi.org/10.1080/02699931.2013.792244>
- Lai, K. (2018). Estimating standardized SEM parameters given nonnormal data and incorrect model: Methods and comparison. *Structural Equation Modeling: A Multidisciplinary Journal*, 25(4), 600–620. <https://doi.org/10.1080/10705511.2017.1392248>
- Lane, C. R., Griffith, J. M., & Hankin, B. L. (2025). Early adolescent social anxiety and (mal)adaptive responses to interpersonal stress: Exploring associations in daily life. *The Journal of Early Adolescence*, 02724316251370618.
<https://doi.org/10.1177/02724316251370618>
- Lange, S., & Tröster, H. (2014). Strategien der Emotionsregulation bei sozial ängstlichen Kindern und Jugendlichen. *Zeitschrift für Klinische Psychologie und Psychotherapie*, 43(1), 35–42. <https://doi.org/10.1026/1616-3443/a000246>
- Larsen, L., Schaubert, S. K., Holt, T., & Helland, M. S. (2023). Longitudinal Covid-19 effects on child mental health: Vulnerability and age dependent trajectories. *Child and Adolescent Psychiatry and Mental Health*, 17(1), 104. <https://doi.org/10.1186/s13034-023-00652-5>
- Leary, M. R. (1983). A brief version of the Fear of Negative Evaluation Scale. *Personality and Social Psychology Bulletin*, 9(3), 371–375.
<https://doi.org/10.1177/0146167283093007>
- Leiner, D. J. (2019). *SoSci Survey (Version 3.1.06)* [Computer software].
<https://www.sosicurvey.de>

Leiner, D. J. (2024). *SoSci Survey* (Version 3.5.01) [Computer software].

<https://www.soscsurvey.de>

Levkovich, I., Yatzkar, U., & Shenaar-Golan, V. (2025). Age and gender differences in emotional and behavioral functioning among youth referred to a psychiatric outpatient clinic at a public hospital. *Children*, 12(6), 683.

<https://doi.org/10.3390/children12060683>

Lidle, L. R., & Schmitz, J. (2021). Rumination in children with social anxiety disorder: Effects of cognitive distraction and relation to social stress processing. *Research on Child and Adolescent Psychopathology*, 49(11), 1447–1459.

<https://doi.org/10.1007/s10802-021-00837-6>

Lincoln, T. M., Schulze, L., & Renneberg, B. (2022). The role of emotion regulation in the characterization, development and treatment of psychopathology. *Nature Reviews Psychology*, 1(5), Article 5. <https://doi.org/10.1038/s44159-022-00040-4>

Lindsay, E. K., & Creswell, J. D. (2017). Mechanisms of mindfulness training: Monitor and Acceptance Theory (MAT). *Clinical Psychology Review*, 51, 48–59.

<https://doi.org/10.1016/j.cpr.2016.10.011>

Lindsay, E. K., Chin, B., Greco, C. M., Young, S., Brown, K. W., Wright, A. G. C., Smyth, J. M., Burkett, D., & Creswell, J. D. (2018). How mindfulness training promotes positive emotions: Dismantling acceptance skills training in two randomized controlled trials. *Journal of Personality and Social Psychology*, 115(6), 944–973.

<https://doi.org/10.1037/pspa0000134>

Lipton, M. F., Augenstein, T. M., Weeks, J. W., & De Los Reyes, A. (2014). A Multi-informant approach to assessing fear of positive evaluation in socially anxious adolescents. *Journal of Child and Family Studies*, 23(7), 1247–1257.

<https://doi.org/10.1007/s10826-013-9785-3>

- Lipton, M. F., Qasmieh, N., Racz, S. J., Weeks, J. W., & Reyes, A. D. L. (2020). The Fears of Evaluation About Performance (FEAP) Task: Inducing anxiety-related responses to direct exposure to negative and positive evaluations. *Behavior Therapy*, 51(6), 843–855. <https://doi.org/10.1016/j.beth.2020.01.004>
- Lipton, M. F., Weeks, J. W., & De Los Reyes, A. (2016). Individual differences in fears of negative versus positive evaluation: Frequencies and clinical correlates. *Personality and Individual Differences*, 98, 193–198. <https://doi.org/10.1016/j.paid.2016.03.072>
- Little, T. D. (2013). *Longitudinal structural equation modeling*. Guilford Press.
- Lundh, L.-G., & Sperling, M. (2002). Social anxiety and the post-event processing of socially distressing events. *Cognitive Behaviour Therapy*, 31(3), 129–134. <https://doi.org/10.1080/165060702320338004>
- Makkar, S. R., & Grisham, J. R. (2011). The Predictors and contents of post-event processing in social anxiety. *Cognitive Therapy and Research*, 35(2), 118–133. <https://doi.org/10.1007/s10608-011-9357-z>
- Masters, M., Zimmer-Gembeck, M. J., & Farrell, L. J. (2019). Transactional associations between adolescents' emotion dysregulation and symptoms of social anxiety and depression: A longitudinal study. *The Journal of Early Adolescence*, 39(8), 1085–1109. <https://doi.org/10.1177/0272431618806053>
- Masters, M., Zimmer-Gembeck, M. J., Farrell, L. J., & Modecki, K. L. (2021). Coping and emotion regulation in response to social stress tasks among young adolescents with and without social anxiety. *Applied Developmental Science*, 27(1), 18–33. <https://doi.org/10.1080/10888691.2021.1990060>
- Mathews, B. L., Kerns, K. A., & Ciesla, J. A. (2014). Specificity of emotion regulation difficulties related to anxiety in early adolescence. *Journal of Adolescence*, 37(7), 1089–1097. <https://doi.org/10.1016/j.adolescence.2014.08.002>

- Mathieu, J. E., Aguinis, H., Culpepper, S. A., & Chen, G. (2012). Understanding and estimating the power to detect cross-level interaction effects in multilevel modeling. *Journal of Applied Psychology*, 97(5), 951–966. <https://doi.org/10.1037/a0028380>
- Matthews, M., Webb, T. L., Shafir, R., Snow, M., & Sheppes, G. (2021). Identifying the determinants of emotion regulation choice: A systematic review with meta-analysis. *Cognition and Emotion*, 35(6), 1056–1084. <https://doi.org/10.1080/02699931.2021.1945538>
- Maydeu-Olivares, A. (2017). Maximum likelihood estimation of structural equation models for continuous data: Standard errors and goodness of fit. *Structural Equation Modeling*, 24, 383–394. <https://doi.org/10.1080/10705511.2016.1269606>
- McBride, N. L., Bates, G. W., Elphinstone, B., & Whitehead, R. (2022). Self-compassion and social anxiety: The mediating effect of emotion regulation strategies and the influence of depressed mood. *Psychology and Psychotherapy*, 95(4), 1036–1055. <https://doi.org/10.1111/papt.12417>
- McEvoy, P. M., Black, A., Piesse, E., Strachan, L., & Clarke, P. J. F. (2023). The effect of positive and negative evaluation on state anxiety and repetitive negative thinking in social evaluative situations: An experimental study. *Journal of Anxiety Disorders*, 98, 102734. <https://doi.org/10.1016/j.janxdis.2023.102734>
- McEvoy, P. M., Hyett, M. P., Ehring, T., Johnson, S. L., Samtani, S., Anderson, R., & Moulds, M. L. (2018). Transdiagnostic assessment of repetitive negative thinking and responses to positive affect: Structure and predictive utility for depression, anxiety, and mania symptoms. *Journal of Affective Disorders*, 232, 375–384. <https://doi.org/10.1016/j.jad.2018.02.072>

- McLaughlin, K. A., & King, K. (2015). Developmental trajectories of anxiety and depression in early adolescence. *Journal of Abnormal Child Psychology*, 43(2), 311–323.
<https://doi.org/10.1007/s10802-014-9898-1>
- McLaughlin, K. A., & Nolen-Hoeksema, S. (2011). Rumination as a transdiagnostic factor in depression and anxiety. *Behaviour Research and Therapy*, 49(3), 186–193.
<https://doi.org/10.1016/j.brat.2010.12.006>
- McLaughlin, K. A., Borkovec, T. D., & Sibrava, N. J. (2007). The effects of worry and rumination on affect states and cognitive activity. *Behavior Therapy*, 38(1), 23–38.
<https://doi.org/10.1016/j.beth.2006.03.003>
- McLaughlin, K. A., Hatzenbuehler, M. L., Mennin, D. S., & Nolen-Hoeksema, S. (2011). Emotion dysregulation and adolescent psychopathology: A prospective study. *Behaviour Research and Therapy*, 49(9), 544–554.
<https://doi.org/10.1016/j.brat.2011.06.003>
- McMahon, T. P., & Naragon-Gainey, K. (2019). The multilevel structure of daily emotion-regulation-strategy use: An examination of within- and between-person associations in naturalistic Settings. *Clinical Psychological Science*, 7(2), 321–339.
<https://doi.org/10.1177/2167702618807408>
- McMahon, T. P., & Naragon-Gainey, K. (2020). Ecological validity of trait emotion-regulation strategy measures. *Psychological Assessment*, 32(8), 796–802.
<https://doi.org/10.1037/pas0000827>
- McRae, K., & Gross, J. J. (2020). Emotion regulation. *Emotion*, 20(1), 1–9.
<https://doi.org/10.1037/emo0000703>
- Melfsen, S., & Warnke, A. (2009). Soziale Phobie [Social phobia]. In S. Schneider & J. Margraf (Eds.), *Lehrbuch der Verhaltenstherapie* (pp. 531–553). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-540-79545-2_31

- Mennin, D. S., Holaway, R. M., Fresco, D. M., Moore, M. T., & Heimberg, R. G. (2007). Delineating components of emotion and its dysregulation in anxiety and mood psychopathology. *Behavior Therapy*, 38(3), 284–302.
<https://doi.org/10.1016/j.beth.2006.09.001>
- Mennin, D. S., McLaughlin, K. A., & Flanagan, T. J. (2009). Emotion regulation deficits in generalized anxiety disorder, social anxiety disorder, and their co-occurrence. *Journal of Anxiety Disorders*, 23(7), 866–871. <https://doi.org/10.1016/j.janxdis.2009.04.006>
- Miers, A. C., Blöte, A. W., Heyne, D. A., & Westenberg, P. M. (2014). Developmental pathways of social avoidance across adolescence: The role of social anxiety and negative cognition. *Journal of Anxiety Disorders*, 28(8), 787–794.
<https://doi.org/10.1016/j.janxdis.2014.09.008>
- Modini, M., Rapee, R. M., & Abbott, M. J. (2018). Processes and pathways mediating the experience of social anxiety and negative rumination. *Behaviour Research and Therapy*, 103, 24–32. <https://doi.org/10.1016/j.brat.2018.01.009>
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16(2), 361–388. <https://doi.org/10.1111/j.1467-9507.2007.00389.x>
- Morrison, A. S., & Heimberg, R. G. (2013). Social anxiety and social anxiety disorder. *Annual Review of Clinical Psychology*, 9(1), 249–274.
<https://doi.org/10.1146/annurev-clinpsy-050212-185631>
- Morrison, A. S., Goldin, P. R., & Gross, J. J. (2024). Fear of negative and positive evaluation as mediators and moderators of treatment outcome in social anxiety disorder. *Journal of Anxiety Disorders*, 104, 102874. <https://doi.org/10.1016/j.janxdis.2024.102874>
- Mörtberg, E., Jansson Fröjmark, M., Van Zalk, N., & Tillfors, M. (2022). A longitudinal study of prevalence and predictors of incidence and persistence of sub-diagnostic

- social anxiety among Swedish adolescents. *Nordic Psychology*, 74(3), 152–170.
<https://doi.org/10.1080/19012276.2021.1943498>
- Mulder, J. D. (2023). Power analysis for the random intercept cross-lagged panel model using the powRICLPM R-package. *Structural Equation Modeling: A Multidisciplinary Journal*, 30(4), 645–658. <https://doi.org/10.1080/10705511.2022.2122467>
- Mulder, J. D., & Hamaker, E. L. (2021). Three extensions of the Random Intercept Cross-Lagged Panel Model. *Structural Equation Modeling: A Multidisciplinary Journal*, 28(4), 638–648. <https://doi.org/10.1080/10705511.2020.1784738>
- Muthén, L. K., & Muthén, B. O. (2017). *Mplus User's Guide* (8th ed.). Los Angeles, CA: Muthén & Muthén.
- Nelson, E. E., Leibenluft, E., McClure, E. B., & Pine, D. S. (2005). The social re-orientation of adolescence: A neuroscience perspective on the process and its relation to psychopathology. *Psychological Medicine*, 35(2), 163–174.
<https://doi.org/10.1017/S0033291704003915>
- Newman, A., Bavik, Y. L., Mount, M., & Shao, B. (2021). Data collection via online platforms: Challenges and recommendations for future research. *Applied Psychology*, 70(3), 1380–1402. <https://doi.org/10.1111/apps.12302>
- Nicholson, J. S., Deboeck, P. R., & Howard, W. (2017). Attrition in developmental psychology: A review of modern missing data reporting and practices. *International Journal of Behavioral Development*, 41(1), 143–153.
<https://doi.org/10.1177/0165025415618275>
- Niles, A. N., Burklund, L. J., Arch, J. J., Lieberman, M. D., Saxbe, D., & Craske, M. G. (2014). Cognitive mediators of treatment for social anxiety disorder: Comparing acceptance and commitment therapy and Cognitive-Behavioral Therapy. *Behavior Therapy*, 45(5), 664–677. <https://doi.org/10.1016/j.beth.2014.04.006>

- Nolen-Hoeksema, S., Vine, V., & Gilbert, K. E. (2013). Emotions and rumination. In C. Mohiyeddini, M. Eysenck, & S. Bauer (Eds.), *Handbook of Psychology of Emotions*. Nova.
- O'Toole, M. S., Jensen, M. B., Fentz, H. N., Zachariae, R., & Hougaard, E. (2014). Emotion differentiation and emotion regulation in high and low socially anxious individuals: An experience-sampling study. *Cognitive Therapy and Research*, 38(4), 428–438. <https://doi.org/10.1007/s10608-014-9611-2>
- O'Toole, M. S., Zachariae, R., & Mennin, D. S. (2017). Social anxiety and emotion regulation flexibility: Considering emotion intensity and type as contextual factors. *Anxiety, Stress, & Coping*, 30(6), 716–724. <https://doi.org/10.1080/10615806.2017.1346792>
- Okawa, S., Arai, H., Sasagawa, S., Ishikawa, S., Norberg, M. M., Schmidt, N. B., Kwon, J.-H., Rapee, R. M., & Shimizu, E. (2021). A cross-cultural comparison of the bivalent fear of evaluation model for social anxiety. *Journal of Behavioral and Cognitive Therapy*, 31(3), 205–213. <https://doi.org/10.1016/j.jbct.2021.01.003>
- Olino, T. M., Birk, S. L., Case, J. A. C., & Weeks, J. (2023). An Initial examination of fear of negative and positive evaluation in youth. *Journal of Anxiety Disorders*, 100, 102784. <https://doi.org/10.1016/j.janxdis.2023.102784>
- Ollendick, T. H., Benoit, K. E., & Grills-Tauechell, A. E. (2014). Social anxiety disorder in children and adolescents. In J. W. Weeks (Ed.), *The Wiley Blackwell handbook of social anxiety disorder* (pp. 181–200). Wiley Blackwell.
- OpenAI. (2025). *ChatGPT* (Version 5.0) [Large Language Model]. OpenAI Inc.
- Paulhus, D. L., Robins, R. W., Trzesniewski, K. H., & Tracy, J. L. (2004). Two replicable suppressor situations in personality research. *Multivariate Behavioral Research*, 39(2), 303–328. https://doi.org/10.1207/s15327906mbr3902_7

- Peifer, C., Schönfeld, P., Wolters, G., Aust, F., & Margraf, J. (2020). Well done! Effects of positive feedback on perceived self-efficacy, flow and performance in a mental arithmetic task. *Frontiers in Psychology, 11*, 1008.
<https://doi.org/10.3389/fpsyg.2020.01008>
- Peker, M., & Akkuş, K. (2024). Fear of positive evaluation differentially predicts social anxiety: A six-month longitudinal panel study. *Current Psychology, 43*(4), 3621–3631. <https://doi.org/10.1007/s12144-023-04597-y>
- Penney, E. S., & Abbott, M. J. (2014). Anticipatory and post-event rumination in social anxiety disorder: A review of the theoretical and empirical literature. *Behaviour Change, 31*(2), 79–101. <https://doi.org/10.1017/bec.2014.3>
- Petrova, K., & Gross, J. J. (2023). The future of emotion regulation research: Broadening our field of view. *Affective Science, 4*(4), 609–616. <https://doi.org/10.1007/s42761-023-00222-0>
- Petrowski, K., Schmalbach, I., Strunk, A., Hoyer, J., Kirschbaum, C., & Joraschky, P. (2021). Cortisol reactivity in social anxiety disorder: A highly standardized and controlled study. *Psychoneuroendocrinology, 123*, 104913.
<https://doi.org/10.1016/j.psyneuen.2020.104913>
- Podsakoff, P. M., Podsakoff, N. P., Williams, L. J., Huang, C., & Yang, J. (2024). Common Method Bias: It's bad, it's complex, it's widespread, and it's not easy to fix. *Annual Review of Organizational Psychology and Organizational Behavior, 11*(1), 17–61.
<https://doi.org/10.1146/annurev-orgpsych-110721-040030>
- Poole, K. L., Hassan, R., & Schmidt, L. A. (2022). Two-factor structure of social-evaluative fear in children: Distinguishing fear of positive and negative evaluation in social anxiety. *Journal of Psychopathology and Behavioral Assessment, 44*(3), 800–810.
<https://doi.org/10.1007/s10862-022-09968-6>

- Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: A meta-analysis. *JAMA Pediatrics*, 175(11), 1142–1150.
<https://doi.org/10.1001/jamapediatrics.2021.2482>
- Radtke, S. R., Strege, M. V., & Ollendick, T. H. (2020). Exposure therapy for children and adolescents with social anxiety disorder. In *Exposure Therapy for Children with Anxiety and OCD* (pp. 193–219). Elsevier. <https://doi.org/10.1016/B978-0-12-815915-6.00009-3>
- Ranta, K., Aalto-Setälä, T., Heikkinen, T., & Kiviruusu, O. (2024). Social anxiety in Finnish adolescents from 2013 to 2021: Change from pre-COVID-19 to COVID-19 era, and mid-pandemic correlates. *Social Psychiatry and Psychiatric Epidemiology*, 59(1), 121–136. <https://doi.org/10.1007/s00127-023-02466-4>
- Ranta, K., Kaltiala-Heino, R., Koivisto, A.-M., Tuomisto, M. T., Pelkonen, M., & Marttunen, M. (2007). Age and gender differences in social anxiety symptoms during adolescence: The Social Phobia Inventory (SPIN) as a measure. *Psychiatry Research*, 153(3), 261–270. <https://doi.org/10.1016/j.psychres.2006.12.006>
- Ranta, K., Kaltiala-Heino, R., Rantanen, P., & Marttunen, M. (2012). The Mini-Social Phobia Inventory: Psychometric properties in an adolescent general population sample. *Comprehensive Psychiatry*, 53(5), 630–637.
<https://doi.org/10.1016/j.comppsy.2011.07.007>
- Ranta, K., Kaltiala-Heino, R., Rantanen, P., Tuomisto, M. T., & Marttunen, M. (2007). Screening social phobia in adolescents from the general population: The validity of the Social Phobia Inventory (SPIN) against a clinical interview. *European Psychiatry*, 22(4), 244–251. <https://doi.org/10.1016/j.eurpsy.2006.12.002>

- Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behaviour Research and Therapy*, 35(8), 741–756.
[https://doi.org/10.1016/S0005-7967\(97\)00022-3](https://doi.org/10.1016/S0005-7967(97)00022-3)
- Rapee, R. M., Creswell, C., Kendall, P. C., Pine, D. S., & Waters, A. M. (2023). Anxiety disorders in children and adolescents: A summary and overview of the literature. *Behaviour Research and Therapy*, 168, 104376.
<https://doi.org/10.1016/j.brat.2023.104376>
- Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety disorders during childhood and adolescence: Origins and treatment. *Annual Review of Clinical Psychology*, 5(1), 311–341. <https://doi.org/10.1146/annurev.clinpsy.032408.153628>
- Rassaby, M., Spaulding, I. G., & Taylor, C. T. (2024). Fear of positive evaluation and social affiliation in social anxiety disorder and major depression. *Journal of Anxiety Disorders*, 107, 102931. <https://doi.org/10.1016/j.janxdis.2024.102931>
- Rector, N. A., Kamkar, K., Cassin, S. E., Ayearst, L. E., & Laposa, J. M. (2011). Assessing excessive reassurance seeking in the anxiety disorders. *Journal of Anxiety Disorders*, 25(7), 911–917. <https://doi.org/10.1016/j.janxdis.2011.05.003>
- Reichenberger, J., & Blechert, J. (2018). Malaise with praise: A narrative review of 10 years of research on the concept of Fear of Positive Evaluation in social anxiety. *Depression and Anxiety*, 35(12), 1228–1238. <https://doi.org/10.1002/da.22808>
- Reichenberger, J., Arend, A.-K., & Blechert, J. (2024). Daily stress and emotions in relation to fear of negative and positive evaluation. *Journal of Anxiety Disorders*, 107, 102932. <https://doi.org/10.1016/j.janxdis.2024.102932>
- Reichenberger, J., Schwarz, M., König, D., Wilhelm, F. H., Voderholzer, U., Hillert, A., & Blechert, J. (2016). Angst vor negativer sozialer Bewertung: Übersetzung und

- Validierung der Furcht vor negativer Evaluation–Kurzskala (FNE-K). *Diagnostica*, 62(3), 169–181. <https://doi.org/10.1026/0012-1924/a000148>
- Reichenberger, J., Smyth, J. M., & Blechert, J. (2018). Fear of evaluation unpacked: Day-to-day correlates of fear of negative and positive evaluation. *Anxiety, Stress, & Coping*, 31(2), 159–174. <https://doi.org/10.1080/10615806.2017.1396826>
- Reichenberger, J., Wiggert, N., Wilhelm, F. H., Liedlgruber, M., Voderholzer, U., Hillert, A., Timmer, B., & Blechert, J. (2019). Fear of negative and positive evaluation and reactivity to social-evaluative videos in social anxiety disorder. *Behaviour Research and Therapy*, 116, 140–148. <https://doi.org/10.1016/j.brat.2019.03.009>
- Reichenberger, J., Wiggert, N., Wilhelm, F. H., Weeks, J. W., & Blechert, J. (2015). “Don’t put me down but don’t be too nice to me either”: Fear of positive vs. negative evaluation and responses to positive vs. negative social-evaluative films. *Journal of Behavior Therapy and Experimental Psychiatry*, 46, 164–169. <https://doi.org/10.1016/j.jbtep.2014.10.004>
- Richardson, L. P., McCauley, E., Grossman, D. C., McCarty, C. A., Richards, J., Russo, J. E., Rockhill, C., & Katon, W. (2010). Evaluation of the Patient Health Questionnaire-9 Item for detecting major depression among adolescents. *Pediatrics*, 126(6), 1117–1123. <https://doi.org/10.1542/peds.2010-0852>
- Riediger, M., & Klipker, K. (2014). Emotion regulation in adolescence. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (2nd ed., pp. 187–202). The Guilford Press.
- Rodríguez-Ventosa Herrera, E., Muñoz-San Roque, I., & Roldán Franco, M. A. (2024). Emotional and relational problems of adolescents with and without a migrant background in Europe: A systematic review. *European Child & Adolescent Psychiatry*, 33(12), 4115–4131. <https://doi.org/10.1007/s00787-024-02412-y>

- Rowa, K., Gavric, D., Stead, V., LeMoult, J., & McCabe, R. E. (2016). The pernicious effects of post-event processing in social anxiety disorder. *Journal of Experimental Psychopathology*, 7(4), 577–587. <https://doi.org/10.5127/jep.056916>
- Rusch, S., Westermann, S., & Lincoln, T. M. (2012). Specificity of emotion regulation deficits in social anxiety: An internet study. *Psychology and Psychotherapy: Theory, Research and Practice*, 85(3), 268–277. <https://doi.org/10.1111/j.2044-8341.2011.02029.x>
- Saccaro, L. F., Giff, A., De Rossi, M. M., & Piguet, C. (2024). Interventions targeting emotion regulation: A systematic umbrella review. *Journal of Psychiatric Research*, 174, 263–274. <https://doi.org/10.1016/j.jpsychires.2024.04.025>
- Sackl-Pammer, P., Jahn, R., Özlü-Erkilic, Z., Pollak, E., Ohmann, S., Schwarzenberg, J., Plener, P., & Akkaya-Kalayci, T. (2019). Social anxiety disorder and emotion regulation problems in adolescents. *Child and Adolescent Psychiatry and Mental Health*, 13(1), 37. <https://doi.org/10.1186/s13034-019-0297-9>
- Sadikaj, G., Wright, A. G. C., Dunkley, D. M., Zuroff, D. C., & Moskowitz, D. S. (2021). Multilevel structural equation modeling for intensive longitudinal data: A practical guide for personality researchers. In J. F. Rauthmann (Ed.), *The handbook of personality dynamics and processes* (pp. 855–885). Elsevier. <https://doi.org/10.1016/B978-0-12-813995-0.00033-9>
- Salari, N., Heidarian, P., Hassanabadi, M., Babajani, F., Abdoli, N., Aminian, M., & Mohammadi, M. (2024). Global prevalence of social anxiety disorder in children, adolescents and youth: A systematic review and meta-analysis. *Journal of Prevention*, 45(5), 795–813. <https://doi.org/10.1007/s10935-024-00789-9>

- Sanchis-Sanchis, A., Grau, M. D., Moliner, A.-R., & Morales-Murillo, C. P. (2020). Effects of age and gender in emotion regulation of children and adolescents. *Frontiers in Psychology, 11*. <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.00946>
- Scaini, S., Belotti, R., Ogliari, A., & Battaglia, M. (2016). A comprehensive meta-analysis of cognitive-behavioral interventions for social anxiety disorder in children and adolescents. *Journal of Anxiety Disorders, 42*, 105–112.
<https://doi.org/10.1016/j.janxdis.2016.05.008>
- Schäfer, J. Ö., Naumann, E., Holmes, E. A., Tuschen-Caffier, B., & Samson, A. C. (2017). Emotion regulation strategies in depressive and anxiety symptoms in youth: A Meta-analytic review. *Journal of Youth and Adolescence, 46*(2), 261–276.
<https://doi.org/10.1007/s10964-016-0585-0>
- Shimoda, Y., Ishizu, K., & Ohtsuki, T. (2018). The reciprocal relations between experiential avoidance and social anxiety among early adolescents: A prospective cohort study. *Journal of Contextual Behavioral Science, 10*, 115–119.
<https://doi.org/10.1016/j.jcbs.2018.10.001>
- Schmitz, J., & Asbrand, J. (2020). *Soziale Angststörung im Kindes- und Jugendalter*. Kolhammer Verlag.
- Schmitz, J., Krämer, M., & Tuschen-Caffier, B. (2011). Negative postevent processing and decreased self-appraisals of performance following social stress in childhood social anxiety: An experimental study. *Behaviour Research and Therapy, 49*(11), 789–795.
<https://doi.org/10.1016/j.brat.2011.09.001>
- Schneider, R. L., Arch, J. J., Landy, L. N., & Hankin, B. L. (2016). The longitudinal effect of emotion regulation strategies on anxiety levels in children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 47*(6), 978–991.
<https://doi.org/10.1080/15374416.2016.1157757>

- Schreiber, F., Höfling, V., Stangier, U., Bohn, C., & Steil, R. (2012). A cognitive model of social phobia: Applicability in a large adolescent sample. *International Journal of Cognitive Therapy*, 5(3), 341–358. <https://doi.org/10.1521/ijct.2012.5.3.341>
- Schwarz, M., Reichenberger, J., Schwitalla, M., König, D., Wilhelm, F. H., Voderholzer, U., Hillert, A., & Blechert, J. (2016). Furcht vor positiver sozialer Bewertung: Übersetzung und Validierung einer deutschsprachigen Version der FPES. *Diagnostica*, 62(3), Article 3. <https://doi.org/10.1026/0012-1924/a000147>
- Sheppes, G., Scheibe, S., Suri, G., Radu, P., Blechert, J., & Gross, J. J. (2014). Emotion regulation choice: A conceptual framework and supporting evidence. *Journal of Experimental Psychology: General*, 143(1), 163–181. <https://doi.org/10.1037/a0030831>
- Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological momentary assessment. *Annual Review of Clinical Psychology*, 4, 1–32. <https://doi.org/10.1146/annurev.clinpsy.3.022806.091415>
- Siess, J., Blechert, J., & Schmitz, J. (2014). Psychophysiological arousal and biased perception of bodily anxiety symptoms in socially anxious children and adolescents: A systematic review. *European Child & Adolescent Psychiatry*, 23(3), 127–142. <https://doi.org/10.1007/s00787-013-0443-5>
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science*, 22(11), 1359–1366. <https://doi.org/10.1177/0956797611417632>
- Smith, M. V. A., Grohmann, D., & Trivedi, D. (2023). Use of social media in recruiting young people to mental health research: A scoping review. *BMJ Open*, 13(11), e075290. <https://doi.org/10.1136/bmjopen-2023-075290>

- Somerville, L. H. (2013). Special issue on the teenage brain: Sensitivity to social evaluation. *Current Directions in Psychological Science*, 22(2), Article 2.
<https://doi.org/10.1177/0963721413476512>
- Spence, S. H., & Rapee, R. M. (2016). The etiology of social anxiety disorder: An evidence-based model. *Behaviour Research and Therapy*, 86, 50–67.
<https://doi.org/10.1016/j.brat.2016.06.007>
- Spokas, M., Luterek, J. A., & Heimberg, R. G. (2009). Social anxiety and emotional suppression: The mediating role of beliefs. *Journal of Behavior Therapy and Experimental Psychiatry*, 40(2), Article 2. <https://doi.org/10.1016/j.jbtep.2008.12.004>
- Steege, S., Tuerlinckx, F., Gelman, A., & Vanpaemel, W. (2016). Increasing transparency through a multiverse analysis. *Perspectives on Psychological Science*, 11(5), 702–712. <https://doi.org/10.1177/1745691616658637>
- Stork, M., Lemos, M., & Román-Calderón, J. P. (2023). Differences in anxiety sensitivity and experiential avoidance between subtypes of social anxiety disorder. *PLOS ONE*, 18(9), e0290756. <https://doi.org/10.1371/journal.pone.0290756>
- Storozuk, A., Ashley, M., Delage, V., & Maloney, E. A. (2020). Got bots? Practical recommendations to protect online survey data from bot attacks. *The Quantitative Methods for Psychology*, 16(5), 472–481. <https://doi.org/10.20982/tqmp.16.5.p472>
- Sumter, S. R., Bokhorst, C. L., Miers, A. C., Van Pelt, J., & Westenberg, P. M. (2010). Age and puberty differences in stress responses during a public speaking task: Do adolescents grow more sensitive to social evaluation? *Psychoneuroendocrinology*, 35(10), 1510–1516. <https://doi.org/10.1016/j.psyneuen.2010.05.004>
- Swann, W. B. (2012). Self-Verification Theory. In P. Van Lange, A. Kruglanski, & E. Higgins, *Handbook of Theories of Social Psychology* (pp. 23–42). SAGE Publications Ltd. <https://doi.org/10.4135/9781446249222.n27>

- Szollos, S., Keeley, L. M., Makol, B. A., Weeks, J. W., Racz, S. J., Lipton, M. F., Augenstein, T. M., Beale, A. M., & De Los Reyes, A. (2019). Multi-informant assessments of individual differences in adolescents' socio-evaluative fears: Clinical correlates and links to arousal within social interactions. *Journal of Child and Family Studies*, 28(12), 3360–3373. <https://doi.org/10.1007/s10826-019-01517-2>
- Tabachnik, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson.
- Trizano-Hermosilla, I., & Alvarado, J. M. (2016). Best alternatives to cronbach's alpha reliability in realistic conditions: Congeneric and asymmetrical measurements. *Frontiers in Psychology*, 7. <https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00769>
- Tsarpalis-Fragkoulidis, A., Kolar, D.R., & Zemp, M. (2025). *Fears of Evaluation and Emotion Regulation in Adolescents' Daily Life – An Ecological Momentary Assessment (EMA) Study*. PsyArXiv. https://doi.org/10.31234/osf.io/vzma8_v1
- Tsarpalis-Fragkoulidis, A., Kolar, D. R., Schneckenreiter, C., & Zemp, A. M. (2025). Social anxiety and emotion regulation in the everyday life of adolescents: An ecological momentary assessment (EMA) study. *Kindheit und Entwicklung*, 34(3), 150–161. <https://doi.org/10.1026/0942-5403/a000492>
- Tsarpalis-Fragkoulidis, A., Tran, U. S., & Zemp, M. (2024). Fears of positive and negative evaluation and their within-person associations with emotion regulation in adolescence: A longitudinal analysis. *Development and Psychopathology*, 37(4), 1756–1768. <https://doi.org/10.1017/S0954579424001366>
- Tsarpalis-Fragkoulidis, A., van Eickels, R. L., & Zemp, M. (2022). Please don't compliment me! Fear of positive evaluation and emotion regulation—Implications for adolescents' social anxiety. *Journal of Clinical Medicine*, 11(20), 5979. <https://doi.org/10.3390/jcm11205979>

- Turk, C. L., Heimberg, R. G., Luterek, J. A., Mennin, D. S., & Fresco, D. M. (2005). Emotion dysregulation in generalized anxiety disorder: A comparison with social anxiety disorder. *Cognitive Therapy and Research*, 29(1), 89–106.
<https://doi.org/10.1007/s10608-005-1651-1>
- Vagos, P., Salvador, M. do C., Rijo, D., Santos, I. M., Weeks, J. W., & Heimberg, R. G. (2016). Measuring evaluation fears in adolescence. *Measurement and Evaluation in Counseling and Development*, 49(1), 46–62.
<https://doi.org/10.1177/0748175615596781>
- van den Bos, E., Tops, M., & Westenberg, P. M. (2017). Social anxiety and the cortisol response to social evaluation in children and adolescents. *Psychoneuroendocrinology*, 78, 159–167. <https://doi.org/10.1016/j.psyneuen.2017.02.003>
- Van Schie, C., Cook, J. L., Elzinga, B., & Ly, V. (2023). A boost in self-esteem after positive social evaluation predicts social and non-social learning. *Royal Society Open Science*, 10(5), 230027. <https://doi.org/10.1098/rsos.230027>
- Vandenbroucke, L., Weeda, W., Lee, N., Baeyens, D., Westfall, J., Figner, B., & Huizinga, M. (2018). Heterogeneity in cognitive and socio-emotional functioning in adolescents with on-track and delayed school progression. *Frontiers in Psychology*, 9, 1572.
<https://doi.org/10.3389/fpsyg.2018.01572>
- Vassilopoulos, S. P. (2008). Social anxiety and ruminative self-focus. *Journal of Anxiety Disorders*, 22(5), 860–867. <https://doi.org/10.1016/j.janxdis.2007.08.012>
- Vassilopoulos, S. P., & Banerjee, R. (2010). Social interaction anxiety and the discounting of positive interpersonal events. *Behavioural and Cognitive Psychotherapy*, 38(5), 597–609. <https://doi.org/10.1017/S1352465810000433>

- Von Consbruch, K., Stangier, U., & Heidenrich, T. (2016). *Skalen zur sozialen Angststörung. Soziale-Phobie-Inventar (SPIN), Soziale-Interaktions-Angst-Skala (SIAS), Liebowitz-Soziale-Angst-Skala*. (1st ed.). Hogrefe.
- Wagner, G., Zeiler, M., Waldherr, K., Philipp, J., Truttmann, S., Dür, W., Treasure, J. L., & Karwautz, A. F. K. (2017). Mental health problems in Austrian adolescents: A nationwide, two-stage epidemiological study applying DSM-5 criteria. *European Child & Adolescent Psychiatry*, 26(12), 1483–1499. <https://doi.org/10.1007/s00787-017-0999-6>
- Watson, D., Clark, L. A., Chmielewski, M., & Kotov, R. (2013). The value of suppressor effects in explicating the construct validity of symptom measures. *Psychological Assessment*, 25(3), 929. <https://doi.org/10.1037/a0032781>
- Weeks, J. W. (2010). The Disqualification of Positive Social Outcomes Scale: A novel assessment of a long-recognized cognitive tendency in social anxiety disorder. *Journal of Anxiety Disorders*, 24(8), 856–865. <https://doi.org/10.1016/j.janxdis.2010.06.008>
- Weeks, J. W. (2015). Replication and extension of a hierarchical model of social anxiety and depression: Fear of positive evaluation as a key unique factor in social anxiety. *Cognitive Behaviour Therapy*, 44(2), 103–116. <https://doi.org/10.1080/16506073.2014.990050>
- Weeks, J. W., & Howell, A. N. (2012). The bivalent fear of evaluation model of social anxiety: Further integrating findings on fears of positive and negative evaluation. *Cognitive Behaviour Therapy*, 41(2), 83–95. <https://doi.org/10.1080/16506073.2012.661452>

- Weeks, J. W., & Howell, A. N. (2014). Fear of positive evaluation. The neglected fear domain in social anxiety. In J. W. Weeks (Ed.), *The Wiley Blackwell handbook of social anxiety disorder* (pp. 433–453). Wiley Blackwell.
- Weeks, J. W., & Zoccola, P. M. (2015). “Having the heart to be evaluated”: The differential effects of fears of positive and negative evaluation on emotional and cardiovascular responses to social threat. *Journal of Anxiety Disorders*, 36, 115–126.
<https://doi.org/10.1016/j.janxdis.2015.08.004>
- Weeks, J. W., Heimberg, R. G., & Rodebaugh, T. L. (2008). The Fear of Positive Evaluation Scale: Assessing a proposed cognitive component of social anxiety. *Journal of Anxiety Disorders*, 22(1), 44–55. <https://doi.org/10.1016/j.janxdis.2007.08.002>
- Weeks, J. W., Heimberg, R. G., Rodebaugh, T. L., & Norton, P. J. (2008). Exploring the relationship between fear of positive evaluation and social anxiety. *Journal of Anxiety Disorders*, 22(3), 386–400. <https://doi.org/10.1016/j.janxdis.2007.04.009>
- Weeks, J. W., Heimberg, R. G., Rodebaugh, T. L., Goldin, P. R., & Gross, J. J. (2012). Psychometric evaluation of the Fear of Positive Evaluation Scale in patients with social anxiety disorder. *Psychological Assessment*, 24(2), 301–312.
<https://doi.org/10.1037/a0025723>
- Weeks, J. W., Howell, A. N., & Goldin, P. R. (2013). Gaze avoidance in social anxiety disorder. *Depression and Anxiety*, 30(8), 749–756. <https://doi.org/10.1002/da.22146>
- Weeks, J. W., Jakatdar, T. A., & Heimberg, R. G. (2010). Comparing and contrasting fears of positive and negative evaluation as facets of social anxiety. *Journal of Social and Clinical Psychology*, 29(1), 68–94. <https://doi.org/10.1521/jscp.2010.29.1.68>
- Weeks, J. W., Menatti, A. R., & Howell, A. N. (2015). Psychometric evaluation of the Concerns of Social Reprisal Scale: Further explicating the roots of fear of positive

- evaluation. *Journal of Anxiety Disorders*, 36, 33–43.
<https://doi.org/10.1016/j.janxdis.2015.06.008>
- Weeks, J. W., Wilmer, M. T., Potter, C. M., Waldron, E. M., Versella, M., Kaplan, S. C., Jensen, D., & Heimberg, R. G. (2020). Targeting fear of positive evaluation in patients with social anxiety disorder via a brief cognitive behavioural therapy protocol: A proof-of-principle study. *Behavioural and Cognitive Psychotherapy*, 48(6), 745–750. <https://doi.org/10.1017/S1352465820000491>
- Wei, M., Su, J. C., Carrera, S., Lin, S.-P., & Yi, F. (2013). Suppression and interpersonal harmony: A cross-cultural comparison between Chinese and European Americans. *Journal of Counseling Psychology*, 60(4), 625–633. <https://doi.org/10.1037/a0033413>
- Wen, C. K. F., Schneider, S., Stone, A. A., & Spruijt-Metz, D. (2017). Compliance with mobile ecological momentary assessment protocols in children and adolescents: A systematic review and meta-analysis. *Journal of Medical Internet Research*, 19(4), e6641. <https://doi.org/10.2196/jmir.6641>
- Westenberg, P. M., Drewes, M. J., Goedhart, A. W., Siebelink, B. M., & Treffers, P. D. A. (2004). A developmental analysis of self-reported fears in late childhood through mid-adolescence: Social-evaluative fears on the rise? *Journal of Child Psychology and Psychiatry*, 45(3), 481–495. <https://doi.org/10.1111/j.1469-7610.2004.00239.x>
- Westenberg, P. M., Gullone, E., Bokhorst, C. L., Heyne, D. A., & King, N. J. (2007). Social evaluation fear in childhood and adolescence: Normative developmental course and continuity of individual differences. *British Journal of Developmental Psychology*, 25(3), 471–483. <https://doi.org/10.1348/026151006X173099>
- Whitaker, C., Stevelink, S., & Fear, N. (2017). The use of facebook in recruiting participants for health research purposes: A systematic review. *Journal of Medical Internet Research*, 19(8), e290. <https://doi.org/10.2196/jmir.7071>

- Willroth, E. C., & Atherton, O. E. (2024). Best laid plans: A guide to reporting preregistration deviations. *Advances in Methods and Practices in Psychological Science*, 7(1), 25152459231213802. <https://doi.org/10.1177/25152459231213802>
- Wilson, G. A., Cassin, S. E., & Antony, M. M. (2023). Development and validation of a new measure of fear of negative and positive evaluation. *Journal of Psychopathology and Behavioral Assessment*, 45(4), 1127–1140. <https://doi.org/10.1007/s10862-023-10041-z>
- Wilson, G. A., Malivoire, B. L., Cassin, S. E., & Antony, M. M. (2022). A mixed methods investigation of reasons underlying fear of positive evaluation. *Clinical Psychology & Psychotherapy*, 30(2), 473–485. <https://doi.org/10.1002/cpp.2818>
- Wiltink, J., Kliem, S., Michal, M., Subic-Wrana, C., Reiner, I., Beutel, M. E., Brähler, E., & Zwerenz, R. (2017). Mini - social phobia inventory (mini-SPIN): Psychometric properties and population based norms of the German version. *BMC Psychiatry*, 17(1), 377. <https://doi.org/10.1186/s12888-017-1545-2>
- Wirtz, C. M., Hofmann, S. G., Riper, H., & Berking, M. (2014). Emotion regulation predicts anxiety over a five-year interval: A cross-lagged panel analysis. *Depression and Anxiety*, 31(1), 87–95. <https://doi.org/10.1002/da.22198>
- Wolniewicz, C. A., Tiarniyu, M. F., Weeks, J. W., & Elhai, J. D. (2018). Problematic smartphone use and relations with negative affect, fear of missing out, and fear of negative and positive evaluation. *Psychiatry Research*, 262, 618–623. <https://doi.org/10.1016/j.psychres.2017.09.058>
- Woody, S. R., Miao, S., & Kellman-McFarlane, K. (2015). Cultural differences in social anxiety: A meta-analysis of Asian and European heritage samples. *Asian American Journal of Psychology*, 6(1), 47–55. <https://doi.org/10.1037/a0036548>

- World Health Organization. (2022). *ICD-11: International classification of diseases* (11th revision). <https://icd.who.int/>
- Wu, P., Cao, K., Feng, W., & Lv, S. (2024). Cross-lagged analysis of rumination and social anxiety among Chinese college students. *BMC Psychology*, 12(1).
<https://doi.org/10.1186/s40359-023-01515-6>
- Yap, M. B. H., Allen, N. B., & Sheeber, L. (2007). Using an emotion regulation framework to understand the role of temperament and family processes in risk for adolescent depressive disorders. *Clinical Child and Family Psychology Review*, 10(2), Article 2.
<https://doi.org/10.1007/s10567-006-0014-0>
- Yoshinaga, N., Takaoka, K., & Kobori, O. (2020). It hurts but I still need it: A qualitative investigation of post-event processing in social anxiety disorder. *Behavioural and Cognitive Psychotherapy*, 48(3), 364–369.
<https://doi.org/10.1017/S1352465819000651>
- Young, K., Sandman, C., & Craske, M. (2019). Positive and negative emotion regulation in adolescence: Links to anxiety and depression. *Brain Sciences*, 9(4), 76.
<https://doi.org/10.3390/brainsci9040076>
- Yu, M., & Wang, J. (2024). Interpretation bias and adolescent social anxiety: The mediating effect of pre- and post-event rumination. *Cognitive Therapy and Research*, 48(5), 880–894. <https://doi.org/10.1007/s10608-024-10479-9>
- Zawadzki, M. J. (2015). Rumination is independently associated with poor psychological health: Comparing emotion regulation strategies. *Psychology & Health*, 30(10), 1146–1163. <https://doi.org/10.1080/08870446.2015.1026904>
- Zhang, Y., Huang, Y., Chen, R., Gao, D., & Yu, M. (2025). Post-event rumination as a mediator in the relationship between self-focused attention and social anxiety in

Chinese adolescents. *Psychology, Health & Medicine*, 1–17.

<https://doi.org/10.1080/13548506.2025.2502845>

Zhou, J., & Van Zalk, N. (2025). A person-oriented approach to social anxiety and depression: Latent profiles and emotional functioning in adults. *Frontiers in Psychology*, 16, 1600531. <https://doi.org/10.3389/fpsyg.2025.1600531>

Zimmermann, P., & Iwanski, A. (2014). Emotion regulation from early adolescence to emerging adulthood and middle adulthood: Age differences, gender differences, and emotion-specific developmental variations. *International Journal of Behavioral Development*, 38(2), 182–194. <https://doi.org/10.1177/0165025413515405>

Zou, J. B., & Abbott, M. J. (2012). Self-perception and rumination in social anxiety. *Behaviour Research and Therapy*, 50(4), 250–257. <https://doi.org/10.1016/j.brat.2012.01.007>

Supplementary Materials

Supplementary Materials for Chapter 1

Table S1

Direct Effects of the Structural Equation Model without Social Anxiety

Direct Effects	<i>b</i>	BC 95% CI	β	BC 95% CI	<i>p</i>	<i>R</i> ²
<i>Acceptance</i>						.303
FPE	-0.141	[-0.185, -0.093]	-.345	[-0.453, -0.229]	<.001	
FNE	0.060	[-0.040, 0.156]	.066	[-0.044, 0.275]	.234	
Depression	-0.378	[-0.508, -0.251]	-.318	[-0.423, -0.209]	<.001	
Gender (F vs. M)	-0.105	[-0.304, 0.088]	-.039	[-0.112, 0.032]	.291	
Gender (F vs. O)	-0.182	[-0.450, 0.119]	-.046	[-0.114, 0.029]	.208	
Age	-0.033	[-0.031, 0.098]	.039	[-0.038, 0.116]	.316	
<i>Suppression</i>						.335
FPE	-0.004	[-0.051, 0.043]	-.010	[-0.140, 0.117]	.878	
FNE	0.009	[-0.083, 0.099]	.011	[-0.102, 0.122]	.852	
Acceptance	-0.452	[-0.549, -0.356]	-.500	[-0.597, 0.397]	<.001	
Depression	0.144	[0.024, 0.269]	.137	[0.022, 0.247]	.021	
Gender (F vs. M)	-0.083	[-0.268, 0.110]	-.034	[-0.111, 0.045]	.387	
Gender (F vs. O)	0.139	[-0.126, 0.388]	.039	[-0.034, 0.108]	.288	
Age	-0.020	[-0.072, 0.032]	-.025	[-0.094, 0.041]	.470	
<i>Rumination</i>						.635
FPE	0.010	[-0.024, 0.044]	.029	[-0.068, 0.125]	.554	
FNE	0.230	[0.165, 0.290]	.298	[0.215, 0.376]	<.001	
Acceptance	0.034	[-0.033, 0.104]	.040	[-0.039, 0.121]	.328	
Depression	0.608	[0.516, 0.691]	.599	[0.516, 0.670]	<.001	
Gender (F vs. M)	-0.050	[-0.186, 0.075]	-.022	[-0.082, 0.032]	.454	
Gender (F vs. O)	0.010	[-0.202, 0.226]	.003	[-0.057, 0.065]	.923	
Age	0.036	[-0.002, 0.076]	0.050	[-0.003, 0.107]	.079	

Notes. *b* = unstandardized coefficient, β (*SE*) = standardized coefficient and standard error, FPE = fear of positive evaluation, FNE = fear of negative evaluation, SUP = suppression, ACC = acceptance, RUM = rumination, DEP = depressive symptoms. Significant values are in bold.

Table S2*Indirect Effects of the Structural Equation Model without Social Anxiety.*

Total and Indirect Effects	<i>b</i>	BC 95% CI	β	BC 95% CI	<i>p</i>
<i>FPE → SUP</i>					
Total Effect	0.060	[0.014;0.106]	0.162	[0.039;0.287]	.010
FPE → ACC → SUP	0.064	[0.040, 0.091]	0.172	[0.109;0.244]	<.001
<i>FNE → SUP</i>					
Total Effect	-0.018	[-0.123;0.084]	-0.022	[-0.151;0.104]	.728
FNE → ACC → SUP	-0.027	[-0.083;0.099]	-0.033	[-0.090;0.021]	.238
<i>FPE → RUM</i>					
Total Effect	0.005	[-0.026;0.036]	0.015	[-0.07;0.104]	.736
FPE → ACC → RUM	-0.005	[-0.016;0.004]	-0.014	[-0.045;0.012]	.340
<i>FNE → RUM</i>					
Total Effect	0.232	[0.168;0.292]	0.301	[0.217;0.379]	<.001
FNE → ACC → RUM	0.002	[-0.001;0.014]	-0.003	[-0.002;0.018]	.525

Notes. *b* = unstandardized coefficient, β (SE) = standardized coefficient and standard error, FPE = fear

of positive evaluation, FNE = fear of negative evaluation, SUP = suppression, ACC = acceptance, RUM

= rumination, DEP = depressive symptoms. Significant values are in bold.

Table S3

Means, Standard Deviations, and Correlations of all study variables and Covid-19 burden.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. SA	1.99	0.87	-						
2. FNE	2.73	0.92	.664**	-					
3. FPE	3.98	2.08	.698**	.496**	-				
4. RUM	2.64	0.70	.561**	.571**	.449**	-			
5. SUP	3.49	0.79	.231**	.192**	.264**	.254**	-		
6. ACC	3.21	0.88	-.389**	-.250**	-.409**	-.298**	-.471**	-	
7. DEP	1.53	0.71	.611**	.467**	.475**	.673**	.322**	-.404**	
8. COV	55.85	28.69	.119**	.155**	.111**	.247**	.034	-0.91*	.202**

Notes. $N = 647$. * $p < .05$. ** $p < .01$; SA = social anxiety, FNE = fear of negative evaluation, FPE = fear

of positive evaluation, RUM = rumination, SUP = suppression, ACC = acceptance, DEP = depression,

COB = Covid-19 burden (VAS).

Figure S1

Coefficient Plot Displaying Standardized Coefficients of Direct Paths from all Calculated Models.

Direct effect shown: Social anxiety → suppression.

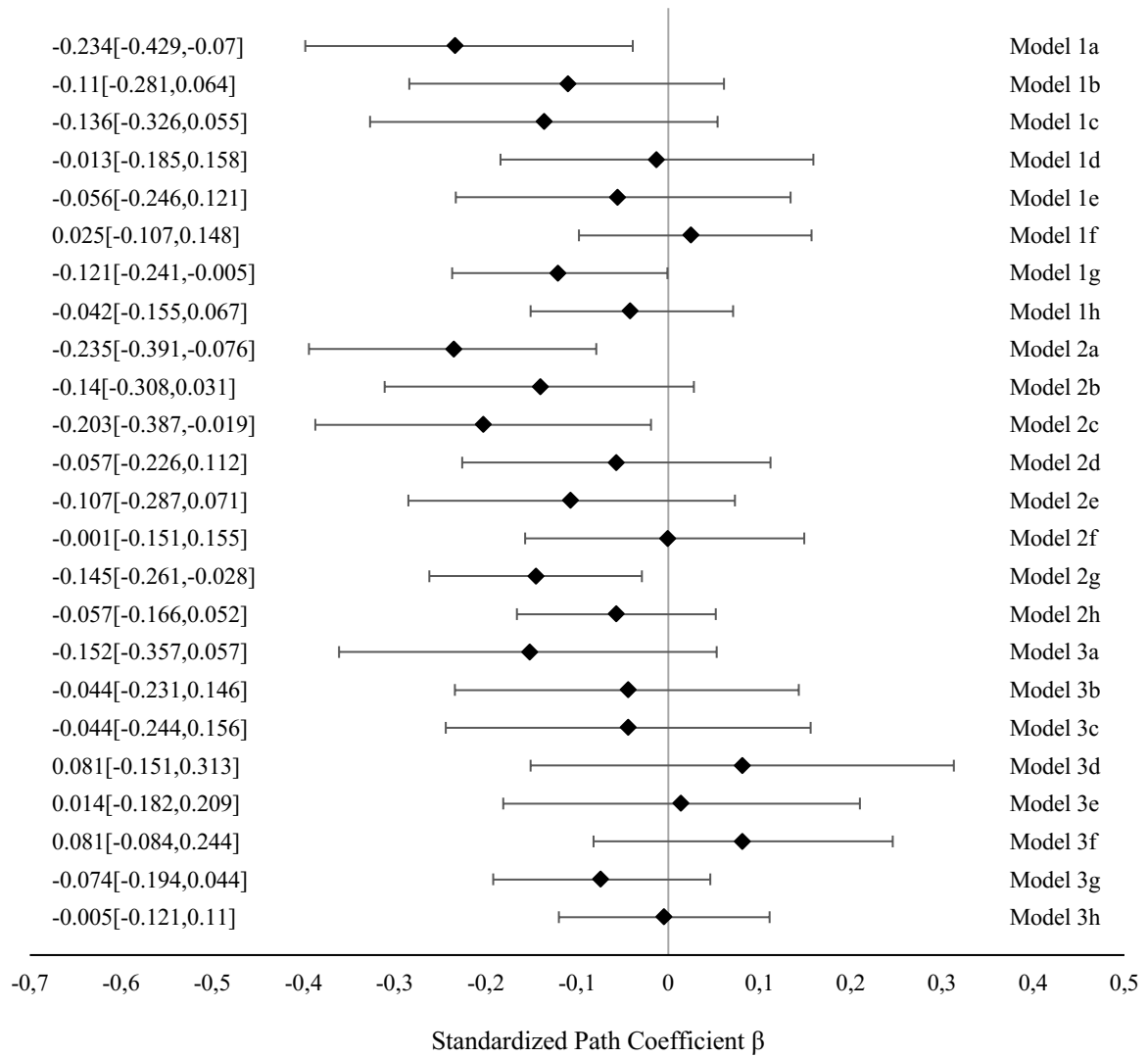


Figure S2

Coefficient Plot Displaying Standardized Coefficients of Indirect Paths from all Calculated Models.

Indirect effect shown: Social anxiety → FPE → acceptance.

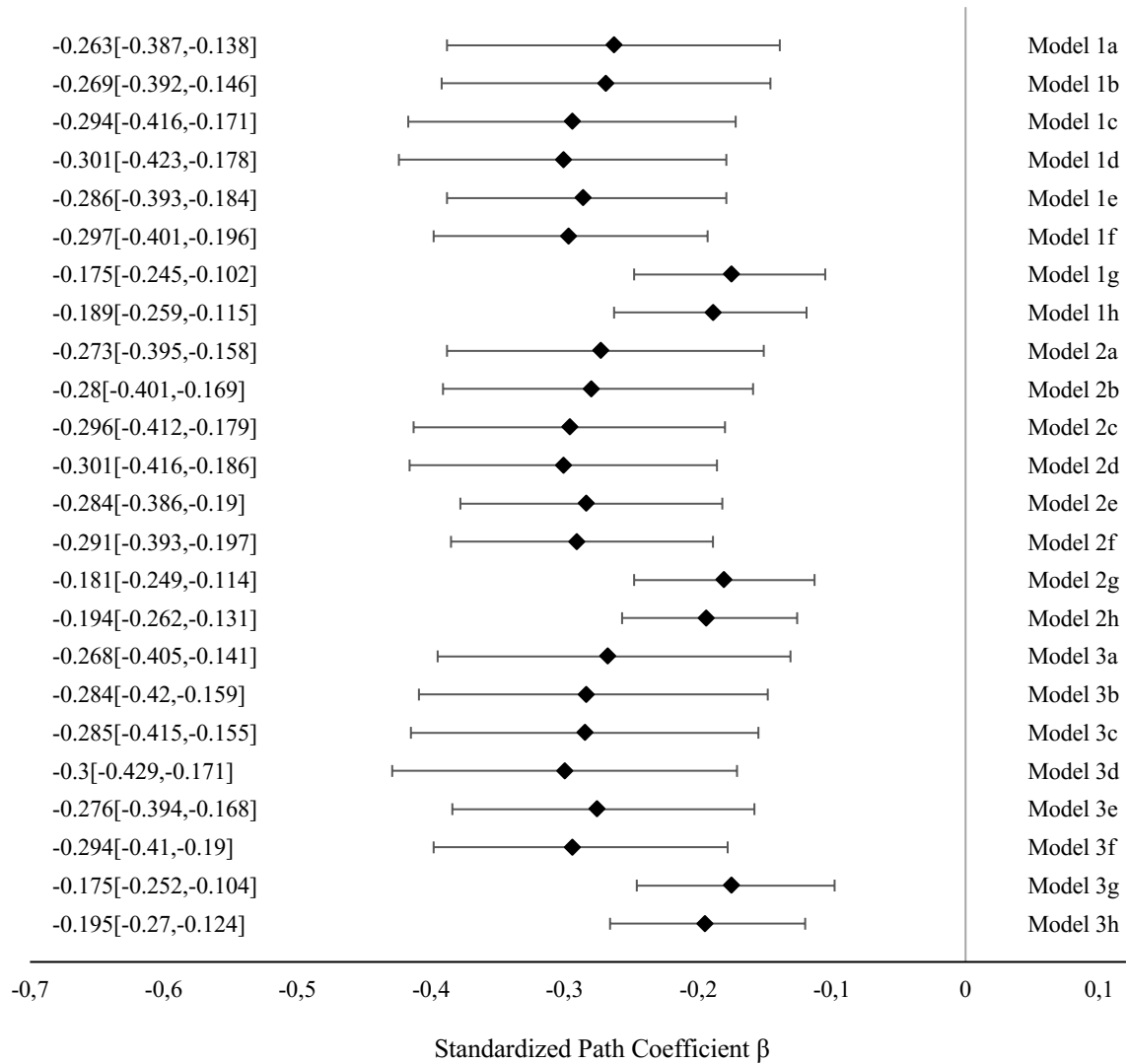
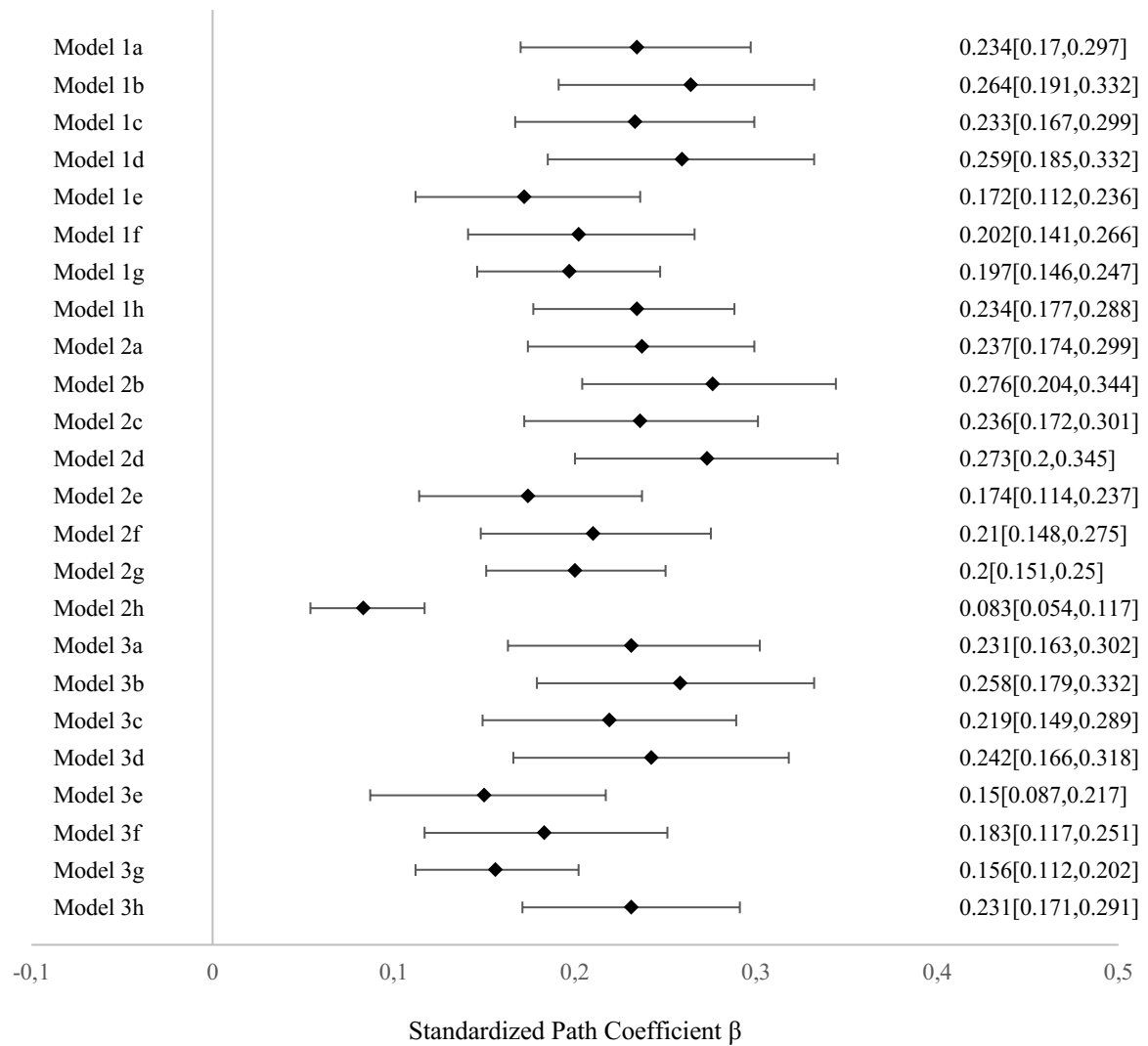


Figure S3

Coefficient Plot Displaying Standardized Coefficients of Indirect Paths from all Calculated Models.

Indirect effect shown: Social anxiety → FNE → rumination.



Supplementary Materials for Chapter 2

This electronic supplement contains detailed descriptions with respect to our data analytical procedures, including (1) building the main models, (2) imposing and comparing equality constraints over time, (3) a sensitivity analysis with a dataset from individuals that filled out our questionnaires at all time points, and (4) indirect comparisons of path coefficients across three models.

Data Analysis

Building the RI-CLPM

The building blocks of these models included: (1) the random intercepts, which were specified by creating a latent variable with the manifest scores at each measurement time point as its indicators and fixing the factor loadings to 1, and (2) the within-person components, which were created by specifying latent variables for each time point, fixing the factor loadings to 1 and constraining the error variance to 0. Through the inclusion of random intercepts, this model allowed for the decomposition of longitudinal data into stable, between-person differences and temporal, within-person dynamics. As trait-like differences were captured by the random intercepts, the estimated lagged effects related solely to fluctuations within persons. More specifically, correlations between random intercepts reflected associations between study variables at the between-person level, whereas cross-lagged paths indicated the extent to which within-person deviations from an individual's mean score on a given variable led to subsequent within-person deviations from their mean score on another variable. Autoregressive paths across time points represented within-person carryover effects.

Equality Constraints Over Time

First, we imposed equality constraints over time for the autoregressive and the cross-lagged paths. Likelihood-ratio tests indicated a marginally worse model fit for the model with

FPE. Nonetheless, due to the lack of precision in the unconstrained model's estimations, as well as the fact that the constrained model demonstrated excellent fit, we opted to report the latter. It is important to note that the estimations in the unconstrained model produced effects similar to those in the constrained one, both in terms of significance and direction. This was further examined using robust maximum likelihood estimation. The constraints proved tenable for the models with FNE and social anxiety.

Additionally, the high attrition in our data led to problems concerning the estimation of the residual variance of FPE and social anxiety at T2, resulting in implausible values for the standard errors and the confidence intervals involving these variables. For instance, the standard error for the R^2 of the variable social anxiety at T2 was calculated to be 88.110, and confidence intervals for correlations between this variable and others exceeded 1.3. Therefore, we imposed additional constraints on the estimates, for example by restricting the residual variance to be higher than 0. This constraint led to a more accurate estimation of confidence intervals while maintaining excellent model fit. The model comparisons are displayed in tables S1 and S2. The detailed output of these models can be found on <https://osf.io/hzmvc> in the folder entitled "Supplementary model comparisons – time constraints".

Results

Sensitivity Analysis

Some noteworthy trends that were observed in the main models reached statistical significance within these analyses. Specifically, the within-person cross-lagged effect of FPE on acceptance was significant both from T1 to T2, $\beta = -.318$ [-.702, -.050], and from T2 to T3, $\beta = -.336$ [-.686, -.055].

Moreover, in the model with FNE, the cross-lagged effects of acceptance on suppression were significant from T1 to T2, $\beta = -.184$ [-.444, -.018], and from T2 to T3, $\beta = -$

.233 [-.545, -.024], respectively. Additionally, there were significant effects of acceptance on rumination from T1 to T2, $\beta = -.247$ [-.613, -.019], and from T2 to T3, $\beta = -.195$ [-.450, -.013].

Lastly, in the model with social anxiety, while the pathways from suppression to social anxiety remained significant, the effects from social anxiety to rumination did not. It is worth noting that these models, while offering insights into the robustness of our results, have limited statistical power, which makes the estimates less reliable. However, all model fit indices met acceptable standards. The results of these analyses are summarized in Tables S3 to S5 at the end of this document.

Model Comparisons

In order to compare the coefficients across our models, we proceeded as follows (taking the effect of acceptance on FPE as an example): Our objective was to determine whether the observed effect of acceptance on FPE (with $b = -0.667$ and $\beta = -.291$) could be transferred to the other two models involving FNE and social anxiety without compromising the fit of these two models. If this proved feasible, it would suggest that the effect of acceptance on the two types of fear of evaluation and on social anxiety might be considered interchangeable, indicating that it is not unique to FPE. As the involved variables of interest differed both in terms of their rating scales (FPE ranging from 0 to 9, FNE from 1 to 5, and social anxiety from 0 to 4) and their variance, we performed two calculations to adequately account for these differences. First, we calculated the ratios of standardized and unstandardized regression coefficients. For the observed effect of acceptance on FPE, this ratio was $\beta/b = 0.043$, for acceptance on FNE, it was $\beta/b = 0.947$, and for acceptance on social anxiety, it was $\beta/b = 1.121$. Given that $\beta = b * SD(X)/SD(Y)$, these numbers equaled the ratios of the model-estimated standard deviations of the predictors and outcomes for each of these associations. Calculating the pairwise ratios of these ratios in a second step provided

us with weights to transfer the estimated unstandardized parameter in one model (e.g., for acceptance on FPE) to a parameter constraint in another model (e.g., for acceptance on FNE), while adequately controlling for differences in rating scale and variance between the different involved variables.

The β/b ratio of FPE to FNE was $0.043/0.947 = 0.460$, and that of FPE to social anxiety was $0.043/1.121 = 0.389$. To arrive at parameter constraints for the effects of acceptance on FNE and social anxiety, we multiplied the estimated unstandardized parameter of acceptance on FPE by these two values, yielding $-0.667 * 0.460 = -0.307$ for the former model and $-0.667 * 0.389 = -0.259$ for the latter. We then utilized likelihood-ratio tests to determine whether these restricted models exhibited a significantly worse fit than the original models. A worse fit indicated that the strength of the association of acceptance with FPE was unique to FPE and did not generalize to FNE or social anxiety.

Concerning the effect of acceptance on FPE, the restricted FNE model exhibited a significantly worse fit, $\chi^2(1) = 9.114, p = .003$, whereas the restricted social anxiety model did not, $\chi^2(1) = 1.348, p = .246$. Regarding the effect of social anxiety on rumination, the model with FPE did not display a significantly worse fit, $\chi^2(1) = 3.21, p = .073$, and neither did the model with FNE, $\chi^2(1) = 0.87, p = .351$. Finally, concerning the effect of suppression on social anxiety, the restricted model with FPE did not indicate a worse fit, $\chi^2(1) = 2.04, p = .153$, whereas the restricted model with FNE did, $\chi^2(1) = 5.50, p = .019$. Thus, there appeared to be differential associations of acceptance with FNE and FPE, and of suppression with social anxiety and FNE, respectively. For a table with all weighted coefficients, see <https://osf.io/hzmvvc>. The file can be found in the folder entitled “model comparisons - equality constraints for path coefficients”.

Table S1*Model Comparisons Testing the Tenability of Equality Constraints*

Model	LL	-2LL	DF	Δdf	-2LL(res)	critical value	
					- (-2LL[unres])	at 16 <i>df</i>	<i>p</i>
FPE	-5337.022	10674.04	6	-	-	-	-
FPE_res	-5353.361	10706.72	22	16	32.678	26.296	.008
FNE	-4406.258	8812.516	6	-	-	-	-
FNE_res	-4414.846	8829.692	22	16	17.176	26.296	.374
SA	-4239.969	8479.938	6	-	-	-	-
SA_res	-4252.866	8505.732	22	16	25.794	26.296	.057

Note. FPE = Fear of positive evaluation; FNE = Fear of negative evaluation; SA = Social anxiety; res = Restricted (Model).

Table S2

Model Comparisons Testing the Tenability of Equality Constraints Using Robust Maximum-Likelihood Estimation

Model	MLR χ^2	DF	SCF	Satorra-Bentler Scaled χ^2
				Difference Test p
FPE	7.049	6	0.9562	
FPE_res	38.318	22	1.0287	.0137
FNE	2.853	6	0.9846	
FNE_res	17.941	22	1.114	.5411
SA	8.017	6	0.7583	
SA_res	32.728	22	0.9739	.08

Note. FPE = Fear of positive evaluation; FNE = Fear of negative evaluation; SA = Social

anxiety; res = Restricted; SCF = Scaling correction factor.

Table S3

Random Intercept Cross-Lagged Panel Modeling Results for Fear of Positive Evaluation, Acceptance, Suppression, and Rumination in the Completer Subsample (n = 157)

Estimate [95% Bias-Corrected Confidence Intervals]				
Intercept Associations (r)				
FPE ↔ ACC	-.420 [-.584, .039]			
FPE ↔ SUP	.304 [-.259, .609]			
FPE ↔ RUM	.604 [.389, .803]			
ACC ↔ SUP	-.672 [-.925, -.260]			
ACC ↔ RUM	-.388 [-.586, -.071]			
SUP ↔ RUM	.363 [.002, .654]			
Autoregressive Paths (β)	T1–T2		T2–T3	
FPE	.258	[.093, .483]	.274	[.092, .497]
ACC	.098	[-.222, .455]	.092	[-.177, .479]
SUP	.347	[.118, .708]	.435	[.160, .755]
RUM	.148	[-.061, .502]	.176	[-.077, .446]
Cross-Lagged Effects (β)	T1–T2		T2–T3	
FPE → ACC	-.318	[-.702, -.050]	-.336	[-.686, -.055]
FPE → SUP	.011	[-.166, .272]	.015	[-.220, .316]
FPE → RUM	.182	[-.114, .544]	-.031	[-.260, .267]
ACC → FPE	-.294	[-.512, -.095]	-.277	[-.488, -.075]
ACC → SUP	-.159	[-.396, .042]	-.189	[-.464, .050]
ACC → RUM	-.170	[-.466, .132]	-.119	[-.34, .108]
SUP → FPE	.165	[-.089, .430]	.165	[-.092, .425]
SUP → ACC	-.084	[-.433, .225]	-.083	[-.435, .208]
SUP → RUM	.011	[-.366, .284]	.008	[-.28, .214]
RUM → FPE	-.001	[-.211, .226]	-.001	[-.292, .299]
RUM → ACC	.098	[-.044, .321]	.156	[-.073, .372]
RUM → SUP	-.015	[-.187, .149]	-.031	[-.260, .267]
Model Fit Indices	RMSEA = .065 [.022, .101], CFI = .991, TLI = .974, SRMR = .045			

Note. FPE = Fear of positive evaluation; ACC = Acceptance; SUP = Suppression; RUM =

Rumination. Significant effects, as indicated by BCCIs not covering 0, are in bold.

Table S4

Random Intercept Cross-Lagged Panel Modeling Results for Fear of Negative Evaluation, Acceptance, Suppression, and Rumination in the Completer Subsample (n = 157)

Estimate [95% Bias-Corrected Confidence Intervals]				
Intercept Associations (r)				
FNE ↔ ACC		-.270	[-.789, .088]	
FNE ↔ SUP		.396	[.091, 2.403]	
FNE ↔ RUM		.561	[-.219, .725]	
ACC ↔ SUP		-.677	[-1.037, -.158]	
ACC ↔ RUM		-.371	[-.677, -.047]	
SUP ↔ RUM		.409	[.120, 1.360]	
Autoregressive Paths (β)		T1–T2	T2–T3	
FNE	.402	[.009, .855]	.325	[-.021, .668]
ACC	.28	[-.033, .609]	.386	[-.036, .790]
SUP	.388	[.151, .730]	.479	[.213, .788]
RUM	.108	[-.201, .460]	.118	[-.160, .421]
Cross-Lagged Effects (β)		T1–T2	T2–T3	
FNE → ACC	.080	[-.214, .422]	.094	[-.238, .419]
FNE → SUP	-.069	[-.378, .130]	-.088	[-.406, .188]
FNE → RUM	.289	[-.001, .771]	.230	[-.040, .590]
ACC → FNE	-.016	[-.269, .187]	-.015	[-.241, .167]
ACC → SUP	-.184	[-.444, -.018]	-.233	[-.545, -.024]
ACC → RUM	-.247	[-.613, -.019]	-.195	[-.450, -.013]
SUP → FNE	-.060	[-.415, .186]	-.056	[-.374, .154]
SUP → ACC	-.119	[-.493, .149]	-.135	[-.504, .141]
SUP → RUM	-.005	[-.406, .277]	-.004	[-.304, .220]
RUM → FNE	.039	[-.153, .327]	.052	[-.159, .329]
RUM → ACC	-.011	[-.226, .232]	-.018	[-.300, .240]
RUM → SUP	-.001	[-.252, .153]	-.002	[-.287, .265]
Model Fit Indices	RMSEA = .041 [.000, .082], CFI = .996, TLI = .989, SRMR = .042			

Note. FNE = Fear of negative evaluation; ACC = Acceptance; SUP = Suppression; RUM =

Rumination. Significant effects, as indicated by BCCIs not covering 0, are in bold.

Table S5

Random Intercept Cross-Lagged Panel Modeling Results for Social Anxiety, Acceptance, Suppression, and Rumination in the Completer Subsample (n = 157)

Estimate [95% Bias-Corrected Confidence Intervals]				
Intercept Associations (r)				
SA ↔ ACC			-.357	[-.572, .516]
SA ↔ SUP			.240	[-1.218, .488]
SA ↔ RUM			.707	[.305, .873]
ACC ↔ SUP			-.640	[-.879, .314]
ACC ↔ RUM			-.384	[-.632, .234]
SUP ↔ RUM			.381	[-.139, .810]
Autoregressive Paths (β)		<i>T1–T2</i>	<i>T2–T3</i>	
SA	.303	[-.560, .763]	.260	[-.140, .787]
ACC	.245	[-.095, .619]	.281	[-.071, .670]
SUP	.333	[.066, .651]	.375	[.052, .664]
RUM	.109	[-.116, .461]	.130	[-.113, .401]
Cross-Lagged Effects (β)		<i>T1–T2</i>	<i>T2–T3</i>	
SA → ACC	-.187	[-.876, .190]	-.189	[-.867, .124]
SA → SUP	.207	[-.024, .688]	.221	[-.009, .730]
SA → RUM	.309	[-.123, .840]	.209	[-.076, .644]
ACC → SA	-.212	[-.746, .083]	-.206	[-.583, .040]
ACC → SUP	-.159	[-.430, .060]	-.193	[-.503, .053]
ACC → RUM	-.187	[-.583, .060]	-.144	[-.446, .055]
SUP → SA	.291	[.002, .820]	.263	[.033, .726]
SUP → ACC	-.105	[-.489, .233]	-.112	[-.493, .236]
SUP → RUM	-.077	[-.544, .199]	-.055	[-.424, .157]
RUM → SA	.111	[-.082, .529]	.167	[-.065, .504]
RUM → ACC	.061	[-.110, .315]	.108	[-.160, .347]
RUM → SUP	-.059	[-.329, .084]	-.111	[-.398, .137]
Model Fit Indices		RMSEA = .070 [.031, .105], CFI = .991, TLI = .972, SRMR = .039		

Note. SA = Social anxiety; ACC = Acceptance; SUP = Suppression; RUM = Rumination.

Significant effects, as indicated by BCCIs not covering 0, are in bold.

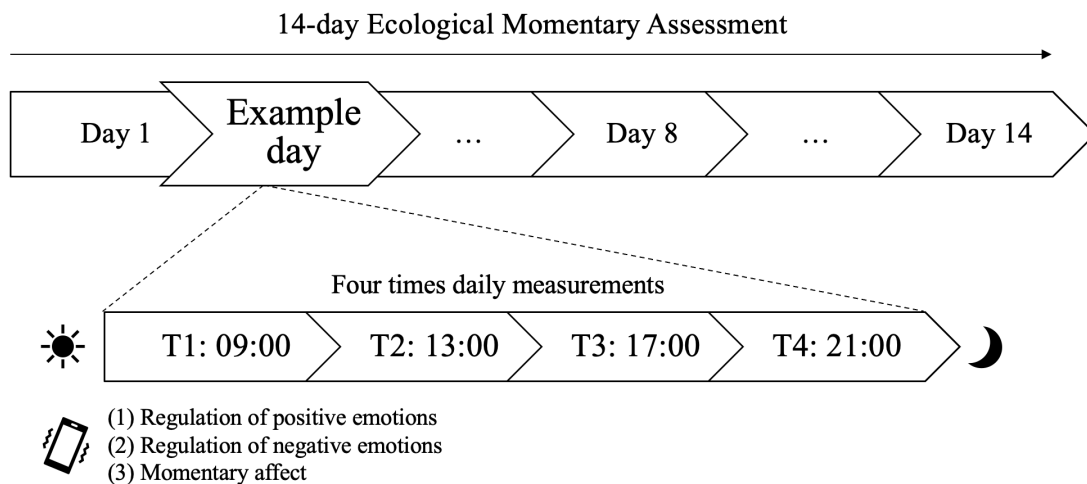
Supplementary Materials for Chapter 3

Methods

Procedure

Figure E1

Study Procedure



The initial dataset included 118 participants and yielded 3,937 data points. During data cleaning, several participants were excluded to ensure data quality: Fourteen participants were excluded from the analyses due to very fast completion of the baseline survey (ranging from 78 to 280 seconds), which raised concerns about the seriousness of their participation, reducing the sample size to $N = 104$. Additionally, two more data sets were excluded, as the data most probably originated from the same person. This conclusion was based on suspicious patterns, such as starting and finishing the baseline survey on the same day with only a few seconds between assessments. For example, one baseline assessment started at 16:30, lasted seven minutes (until 16:37), and the next one began at 16:37, only seconds later. This pattern was consistently observed across multiple time points. After these exclusions, the sample size was reduced to $N = 102$. Next, we reviewed delayed responses and identified four participants who did not complete most of their assessments promptly after the scheduled notifications but

instead responded in batches. For example, one participant completed 50 data points, of which 30 were delayed and completed consecutively in a short time frame (e.g., time points T1, T2, T3, and T4 for a single day were completed at 21:30, 21:31, 21:32, and 21:33). These participants were excluded, reducing the sample size to $N = 98$. Furthermore, one additional participant was excluded from all analyses because they consistently provided “0” as the response for all daily assessments, suggesting a lack of meaningful engagement. This resulted in a final sample size of $N = 97$.

Out of these 97 participants, completers were defined as those who completed at least 50% of the daily assessments, which corresponds to a minimum of 28 time points, as specified in our preregistration. Participants who dropped out before completing 28 time points were considered to have withdrawn consent, and their daily assessment data were not included in the analyses. This approach was chosen because the study was conducted online and anonymously. Participants who initially responded to some assessments but later decided to discontinue would not have had the option to request data deletion since their responses were not linked to their e-mail addresses. To respect their autonomy, we deemed it appropriate to treat non-completion as an implicit withdrawal of consent. However, we reserved the right to use baseline data for specific analyses, including the attrition analysis, given that an explicit statement concerning this matter was included in the informed consent form.

Attrition Analysis

The final dataset comprised $N = 97$ participants, of whom 47 were classified as completers (having completed at least 50% of daily assessments) and 50 as attritors (having completed fewer than 50% of daily assessments). The combined sample of completers and attritors showed a compliance rate of 49.16% (51.27% if participants who only completed the baseline but no daily assessments), with completers showing a compliance rate of 76.1%,

which aligns with rates commonly observed in EMA studies involving adolescents (Wen et al., 2017).

To investigate potential differences between completers and attritors, we conducted independent samples t-tests to compare levels of depression, social anxiety, and age. The results indicated no significant differences between the groups for depression scores ($M = 1.34$ for completers vs. $M = 1.50$ for attritors, $p = .251$), social anxiety scores ($M = 1.50$ for completers vs. $M = 1.69$ for attritors, $p = .296$), or age ($M = 16.15$ for completers vs. $M = 15.90$ for attritors, $p = .246$).

Further analyses using chi-square tests were conducted to assess the role of sociodemographic variables for dropout. No significant associations were found for gender ($\chi^2(1) = 2.935, p = .118$), country of residence ($\chi^2(2) = 1.051, p = .591$), psychotherapy status ($\chi^2(1) = 0.508, p = .579$), or the presence of a somatic illness ($\chi^2(1) = 0.919, p = .618$). However, a significant association was observed for first language ($\chi^2(1) = 5.127, p = .032$), indicating that participants whose first language was not German were more likely to drop out compared to native German speakers.

To further explore predictors of attrition, linear regression analyses were conducted with the number of completed assessments as the dependent variable. The results showed that depression ($b = -3.013, p = .224$), social anxiety ($b = -1.757, p = .366$), gender (0 = male, 1 = female, 2 = other [other was not reported in the sample]; $b = -8.018, p = .070$), psychotherapy status (0 = no, 1 = yes; $b = -4.171, p = .383$), and somatic illness (0 = no, 1 = yes; $b = -12.022, p = .166$) did not predict compliance. In contrast, first language emerged as a significant predictor (0 = German, 1 = other; $b = -10.052, p = .025$), reinforcing the chi-square results and suggesting that language barriers may have contributed to higher dropout rates among non-native German speakers.

Missing Data

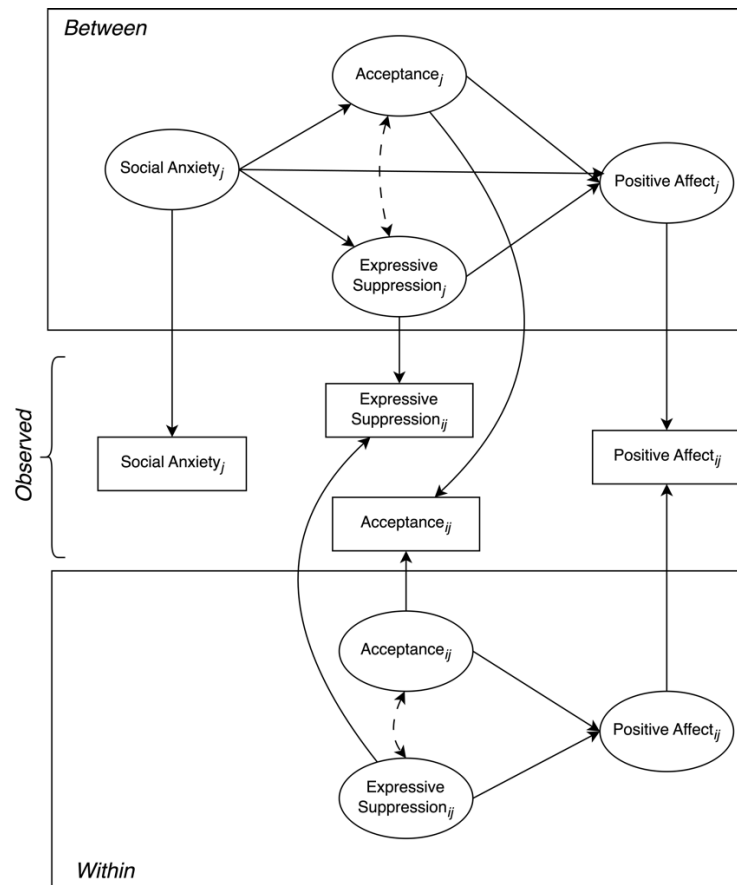
The daily assessments were designed to minimize item-level missingness through automated prompts and confirmation steps for skipped items. Specifically, if participants left an item unanswered during the completion of a time point, the system would prompt them to fill in the missing item. If participants still preferred not to answer a specific question, they had the option to tick a checkbox, confirm their intention to skip the item, and proceed to the next page. This approach resulted in a final dataset with virtually no missing data. Out of 2003 data rows, 1997 were complete. That being said, the compliance rate among participants who provided usable data was 76.1%, with individual compliance rates ranging from 50% to 98%. While this compliance rate is comparable to those observed in other EMA studies involving youth samples (Wen et al., 2017), it introduces the challenge of varying numbers of completed time points per participant. To ensure that sociodemographic or other central study variables did not significantly predict the number of observations in the sample of completers (whose data were used for the estimation of the main models), we re-ran the aforementioned regression analyses with number of observations as a dependent variable and various variables as predictors. The results revealed that depression ($b = -0.589, p = .714$), social anxiety ($b = -0.032, p = .982$), gender ($b = 0.605, p = .821$), psychotherapy status ($b = -1.663, p = .634$), somatic illness ($b = 8.565, p = .286$), and first language ($b = -2.041, p = .625$) were not significant predictors of compliance.

Data Analysis

Level 2 variables were centered around the grand mean, whereas level 1 variables were decomposed into a within-person and a between-person variable for the purposes of the mediation analyses. We specified random slopes for level 1 predictors, as well as covariances between mediators and the random effects. Time was included as a level 1 covariate.

Figure E1

Conceptual Multilevel Structural Equation Model Illustrating the Between-Person Parallel Mediation of Social Anxiety on Positive Affect via Acceptance and Expressive Suppression of Positive Emotions



Results

Table E2

Means, Standard Deviations, and Correlations of Study Variables at the Between-Person Level

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. SA	1.50	0.84	-							
2. DS	1.34	00.73	.60**	-						
3. PA	53.96	14.82	-.08	-.32*	-					
4. NA	29.40	10.34	.55**	.46**	.00	-				
5. SP	21.06	14.57	.25	.14	.1	.51**	-			
6. SN	39.65	19.28	.33*	.37*	.23	.47**	.60**	-		
7. ACP	69.35	22.77	-.45**	-.32*	.26	-.37*	-.51**	-.32*	-	
8. ACN	58.46	22.93	-.43**	-.27	.14	-.33*	-.47**	-.50**	.81**	-
9. RUM	29.26	17.51	.43*	.41**	-.01	.60**	.51**	.51**	-.44**	-.48**

Notes. SA = Social anxiety; DS = Depressive symptoms; PA = Positive affect; NA = Negative affect; SP = Suppression of positive emotions; SN = Suppression of negative emotions; ACP = Acceptance of positive emotions; ACN = Acceptance of negative emotions; RUM = Rumination. *N* = 47. **p* < .05, ***p* < .01.

Table E3*Fixed Direct and Indirect Effects of the Model Examining Positive Affect*

Between-person effects					
Outcome	Predictors	<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
<i>Acceptance of PA</i>					
	SA	-12.52	5.34	-24.19	-2.62
	DS	-1.10	5.92	-11.69	9.90
<i>Suppression of PA</i>					
	SA	5.03	3.65	-1.33	12.52
	DS	-0.67	4.27	-9.76	6.90
<i>PA (between)</i>					
	SA	5.17	3.21	-1.43	10.10
	DS	-8.50	3.40	-14.43	-0.71
	SP	0.30	0.18	0.02	0.73
	ACP	0.27	0.13	0.03	0.52
Within-person effects					
Outcome	Predictors	<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
<i>Acceptance of PA</i>					
	Intercept	68.53	3.37	62.59	75.39
	Time	0.14	0.03	0.09	0.20
<i>Suppression of PA</i>					
	Intercept	19.96	2.36	15.14	24.32
	Time	-0.22	0.030	-0.27	-0.15
<i>PA (within)</i>					
	Intercept	28.71	11.25	1.91	46.10
	Time	0.05	0.03	-0.01	0.11
	ACP	0.21	0.04	0.13	0.28
	SP	-0.07	0.05	-0.18	0.01
Between-person indirect effects					
Path		<i>b</i>	<i>Posterior S.D.</i>	95% Credible Intervals	
				LL	UL
SA → ACP → PA		-3.22	2.34	-9.30	-0.22
SA → SP → PA		1.35	1.69	-0.66	5.97

Note. SA = Social anxiety; DS = Depressive symptoms; PA = Positive affect; ACP =

Acceptance of positive emotions; SP = Suppression of positive emotions. Path coefficients

(*b*) are unstandardized. Significant effects are in bold.

Table E4*Fixed Direct and Indirect Effects of the Model Examining Negative Affect*

Between-person effects					
Outcome	Predictors	b	Posterior S.D.	95% Credible Intervals	
				LL	UL
Acceptance of NA					
	SA	-12.71	5.34	-23.57	-2.17
	DS	0.53	6.34	-12.65	11.99
Suppression of NA					
	SA	4.79	4.59	-5.37	12.95
	DS	7.61	5.24	-4.37	17.46
Rumination					
	SA	6.92	3.66	0.04	14.46
	DS	7.41	3.99	-0.08	15.80
NA (between)					
	SA	4.21	2.01	0.55	8.35
	ACN	0.04	0.07	-0.09	0.18
	SN	0.11	0.08	-0.07	0.26
	RUM	0.23	0.09	0.06	0.40
	DS	0.76	2.20	-3.56	5.25
Within-person effects					
Outcome	Predictors	b	Posterior S.D.	95% Credible Intervals	
				LL	UL
Acceptance of NA					
	Intercept	57.59	3.74	50.21	64.69
	Time	0.07	0.03	0.01	0.13
Suppression of NA					
	Intercept	38.51	3.11	32.56	45.39
	Time	-0.07	0.04	-0.17	0.01
Rumination					
	Intercept	28.20	2.77	22.72	33.54
	Time	-0.17	0.03	-0.23	-0.10
NA (within)					
	Intercept	15.13	6.67	1.83	28.42
	Time	0.00	0.03	-0.06	0.06
	ACN	-0.09	0.04	-0.16	-0.02
	SN	0.07	0.03	0.02	0.12
	RUM	0.31	0.05	0.22	0.42
Between-person indirect effects					
Path		b	Posterior S.D.	95% Credible Intervals	
				LL	UL
SA → ACN → NA		-0.45	0.99	-2.95	1.14
SA → SN → NA		0.36	0.72	-0.63	2.21
SA → RUM → NA		1.46	1.15	-0.02	4.34

Note. SA = Social anxiety; DS = Depressive symptoms; NA = Negative affect; ACN = Acceptance of negative emotions; SN = Suppression of negative emotions; RUM = Rumination. Path coefficients (*b*) are unstandardized. Significant effects are in bold.

Supplementary Materials for Chapter 4

Methods

Data Exclusion, Attrition Analysis, and Missing Data

Of the 177 individuals who initiated the baseline survey, 17 were removed from the dataset because they did not reach the final page. Completion of the baseline was a prerequisite for entering the EMA phase, as it triggered the automatic distribution of diary prompts. Additionally, non-completion was interpreted as a withdrawal of consent, given the anonymous nature of the study.

Among the 160 participants who finished the baseline and received EMA prompts, 30 were excluded due to indications of low data integrity. This group included 20 individuals who completed the baseline survey in under five minutes, which was deemed too short to provide thoughtful responses. Two additional cases were removed because their data showed overlapping timestamps strongly suggesting duplication, likely reflecting the same person completing the study twice (e.g., paired entries initiated and completed seconds apart across multiple time points). One individual responded with "0" to all EMA questions, indicating a lack of engagement, and seven others consistently submitted multiple diary entries at once rather than within the designated 2-hour response windows (e.g., all entries from the first two study days submitted late on the evening of day two).

After exclusions, the resulting sample comprised 130 participants. For main analyses, we further selected individuals who completed at least 28 out of the planned 56 EMA prompts (i.e., $\geq 50\%$ compliance), resulting in a final analytic sample of 80 participants. This threshold was pre-registered and reflected our consent protocol, which stated that participants who did not meet this level of engagement were treated as having withdrawn consent. Given the anonymity of participation, they had no means of requesting data deletion, and this approach ensured respect for autonomy while safeguarding data quality. Nonetheless, we

retained data from these non-completers for specific secondary analyses (e.g., attrition analyses), in line with the informed consent terms.

Participants who met the 28-prompt threshold but submitted a small number of entries slightly outside the response window were retained. For example, one participant submitted 30 entries, with three occurring a few minutes late. There were four participants who met these criteria and were not excluded from the analyses, as this behavior was not considered noncompliance. These participants were compensated accordingly.

Attrition Analysis and Missing Data

Among the 130 participants who began the EMA phase, 50 did not meet the 28-prompt threshold and were classified as non-completers. The overall compliance rate was 55.32%, while those who met the inclusion threshold achieved an average compliance rate of 76.41%, a figure comparable to rates observed in similar EMA studies involving adolescents (Wen et al., 2017).

To explore differences between completers and non-completers, we conducted independent samples t-tests on baseline characteristics including social anxiety, FPE, FNE, and age. None of these variables significantly differentiated the two groups. Mean scores for social anxiety were 1.54 for completers and 1.62 for non-completers ($p = .620$); for FPE, 3.44 versus 1.49 ($p = .891$); for FNE, 3.52 versus 3.70 ($p = .310$); and for age, 16.11 versus 16.02 years ($p = .623$).

Chi-square tests were used to evaluate associations between attrition and categorical demographic factors. There were no significant differences by country of residence, psychotherapy status, or the presence of a somatic illness. However, native language showed a significant association with attrition ($\chi^2(1) = 5.734, p = .017$), indicating higher dropout rates among participants whose first language was not German. Before analyzing gender differences, one participant who identified as diverse was excluded to maintain the validity of

the statistical test. The analysis revealed a significant gender effect ($\chi^2(1) = 8.670, p = .003$), with female participants showing higher rates of dropout compared to male participants.

We further conducted linear regression analyses to examine predictors of diary completion. Neither FNE ($b = -2.69, p = .081$), FPE ($b = -0.56, p = .478$), social anxiety ($b = -2.20, p = .189$), age ($b = 1.10, p = .458$), psychotherapy status ($b = -5.15, p = .235$), nor somatic illness ($b = -3.93, p = .623$) significantly predicted the number of completed assessments. However, native language again emerged as a significant predictor ($b = -13.052, p = .002$), reinforcing the findings from the chi-square test. Gender was also a significant predictor in a separate model ($b = -11.854, p < .001$), further supporting the conclusion that female participants completed on average fewer assessments.

Missing Data

The survey system was designed to reduce item-level missingness by requiring confirmation before skipping any item. Participants who left a response blank were prompted to either complete it or opt out by checking a confirmation box. This procedure resulted in minimal item-level missingness across the dataset. Of the total data rows ($N = 3423$), 3405 were complete.

Within the final sample of 80 participants used in the main analyses, individual compliance rates ranged from 43%³ to 100%, with a mean of 76.41%. While this level of engagement is typical for adolescent EMA studies (Wen et al., 2017), it introduces variation in the number of time points per participant. To examine whether this variability was associated with key demographic or psychological variables, we re-ran regression analyses with the number of completed assessments as the dependent variable. Most of the variables, including social anxiety ($b = -1.03, p = .345$), FPE ($b = -0.42, p = .402$), FNE ($b = 0.48, p =$

³ Four participants completed more than 28 assessments in total; however, due to a few entries falling outside the acceptable time window, only 24 to 27 of their assessments were considered valid. These participants were retained. Hence, the minimum compliance rate was 43% (24/56).

.634), age ($b = 1.90, p = .057$), psychotherapy status ($b = -3.23, p = .267$), somatic illness ($b = -0.47, p = .929$), or gender ($b = -1.85, p = .382$), did not significantly predict compliance. However, native language again emerged as a significant predictor ($b = -7.91, p = .024$), indicating that non-native German speakers submitted fewer assessments, even among those classified as completers.

Supplementary Table 1 (Hypothesis 1)

Effects of FPE and Social Anxiety on Daily Positive and Negative Affect

Between-Person Effects				
Outcome Predictors	<i>b</i> (<i>S.D.</i>)	Std. Est.	95% Credible Intervals	
			LL	UL
Positive Affect				
Intercept	51.52 (1.85)	3.19	47.79	54.94
FPE	-0.76 (1.10)	0.10	-2.96	1.29
Social Anxiety	-0.97 (2.50)	0.05	-6.57	3.25
Negative Affect				
Intercept	28.37 (1.20)	2.15	26.01	30.75
FPE	3.09 (0.69)	0.48	1.79	4.40
Social Anxiety	3.64 (1.52)	0.25	0.80	6.72
Random Effects				
Variance	Est.	95% Credible Intervals		
		LL	UL	
Level 1				
Positive Affect	499.60 (13.09)		475.78	527.30
Negative Affect	432.86 (10.63)		412.25	453.81
Level 2				
Positive Affect	250.27 (46.80)		179.23	366.23
Negative Affect	97.20 (18.11)		69.62	141.83

Note. FPE = Fear of Positive Evaluation; Std. Est. = standardized estimate; Credible intervals are unstandardized; Significant effects are in bold.

Supplementary Table 2

Effects of FPE, FNE, and Negative Affect after Praise on Emotion Regulation of Negative Emotions

<i>Between-Person Effects</i>				
Outcome Predictors	<i>b (S.D.)</i>	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Acceptance of Negative Emotions: R² = .10</i>				
Intercept	71.62 (6.13)	2.98	59.25	83.50
FPE	-2.42 (1.81)	-0.14	-5.96	1.12
FNE	-2.77 (3.17)	-0.08	-9.02	3.44
Praise NA	-0.51 (0.29)	-0.17	-1.08	0.05
FPE x Praise NA	0.02(0.04)	0.06	-0.06	0.09
FNE x Praise NA	0.06(0.07)	0.11	-0.08	0.20
Gender (male)	6.97 (5.60)	0.10	-4.05	18.01
Gender (diverse)	0.74 (23.20)	0.00	-44.75	47.09
<i>Suppression of Negative Emotions: R² = .20</i>				
Intercept	21.12 (4.80)	1.07	11.73	30.48
FPE	4.75 (1.44)	0.34	1.88	7.55
FNE	-1.71 (2.54)	-0.06	-6.69	3.37
Praise NA	0.34 (0.23)	0.13	-0.11	0.80
FPE x Praise NA	-0.04(0.04)	-0.11	-0.12	0.05
FNE x Praise NA	-0.06(0.09)	-0.09	-0.23	0.12
Gender (male)	-9.89 (4.44)	-0.17	-18.54	-1.26
Gender (diverse)	24.10 (18.68)	0.08	-12.71	60.39
<i>Rumination: R² = .22</i>				
Intercept	13.08 (4.40)	0.72	4.46	21.78
FPE	1.74 (1.31)	0.14	-0.86	4.29
FNE	-0.40 (2.27)	-0.02	-4.98	4.00
Praise NA	0.86 (0.21)	0.37	0.46	1.27
FPE x Praise NA	-0.02(0.03)	-0.12	-0.09	0.04
FNE x Praise NA	0.03 (0.06)	0.08	-0.09	0.15
Gender (male)	-10.05 (4.07)	-0.19	-17.80	-1.95
Gender (diverse)	-24.15 (16.81)	-0.09	-57.33	7.79
<i>Within-Person Effects</i>				
Outcome Predictors	<i>b (S.D.)</i>	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Acceptance of Negative Emotions: R² = .05</i>				
Time	0.11 (0.04)	0.08	0.05	0.18
Praise NA	-0.16 (0.150)	-0.04	-0.44	0.14
<i>Suppression of Negative Emotions: R² = .06</i>				
Time	-0.06 (0.04)	-0.04	-0.14	0.02
Praise NA	0.42(0.18)	0.12	0.07	0.77
<i>Rumination: R² = .05</i>				
Time	-0.07 (0.04)	-0.05	-0.14	0.00
Praise NA	0.36(0.13)	0.15	0.12	0.62

Random Effects			
Variance	Est.	95% Credible Intervals	
		LL	UL
Level 1			
Acceptance of Negative Emotions	401.02	372.18	433.12
Suppression of Negative Emotions	594.94	553.11	641.52
Rumination	443.78	412.24	478.87
Level 2			
Acceptance of Negative Emotions	522.65	365.60	768.09
Suppression of Negative Emotions	310.70	207.62	474.85
Rumination	255.40	170.52	389.90
Random Slopes			
Praise NA → Acceptance	0.13 (0.061)	0.06	0.29
Praise NA → Suppression	0.20 (0.09)	0.08	0.42
Praise NA → Rumination	0.07 (0.50)	0.02	0.20

Note. FPE = Fear of Positive Evaluation; FNE = Fear of Negative Evaluation; Praise NA = Negative affect after praise; Std. Est. = standardized estimate; Credible intervals are unstandardized; Significant effects are in bold.

Supplementary Table 3

Direct and Indirect Effects of FPE and FNE on Emotion Regulation of Positive Emotions and Positive and Negative Affect

<i>Between-Person Effects</i>				
Outcome Predictors	<i>b</i> (<i>S.D.</i>)	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Acceptance of Positive Emotions: R² = .16</i>				
Intercept	69.97 (3.28)	2.68	63.97	76.67
FPE	-3.95 (1.44)	-0.32	-6.78	-1.21
FNE	-1.57 (2.89)	-0.06	-7.24	3.96
Gender (male)	-8.17 (5.37)	-0.11	-18.78	2.35
Gender (diverse)	3.96 (21.82)	0.13	-40.19	47.31
<i>Suppression of Positive Emotions: R² = .30</i>				
Intercept	22.28 (2.15)	1.21	18.03	26.47
FPE	5.11 (0.96)	0.58	3.14	6.98
FNE	-1.96 (2.02)	-0.11	-5.88	1.88
Gender (male)	-0.58 (3.60)	-0.01	-7.59	6.66
Gender (diverse)	5.39 (14.91)	0.02	-25.06	33.99
<i>Positive Affect: R² = .17</i>				
Intercept	30.91 (8.80)	1.83	13.56	48.55
FPE	-0.77 (1.21)	-0.09	-3.20	1.64
FNE	0.86 (2.05)	0.05	-3.13	4.97
Acceptance of positive emotions	0.26 (0.10)	0.41	0.07	0.45
Suppression of positive emotions	0.13 (0.15)	0.14	-0.16	0.42
<i>Negative Affect: R² = .54</i>				
Intercept	19.02 (5.49)	1.37	8.44	29.77
FPE	2.31 (0.74)	0.35	0.90	3.79
FNE	0.77 (1.30)	0.06	-1.74	3.34
Acceptance of positive emotions	0.02 (0.06)	0.05	-0.09	0.14
Suppression of positive emotions	0.36 (0.09)	0.47	0.17	0.54
<i>Within-Person Effects</i>				
Outcome Predictors	<i>b</i> (<i>S.D.</i>)	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Positive Affect: R² = .09</i>				
Time	0.07	0.05	0.02	0.11
Acceptance of positive emotions	0.24 (0.03)	0.21	0.17	0.30
Suppression of positive emotions	-0.04 (0.03)	-0.04	-0.10	0.01
<i>Negative Affect: R² = .10</i>				
Time	-0.03	-0.02	-0.07	0.01
Acceptance of positive emotions	-0.12 (0.03)	-0.11	-0.18	-0.06
Suppression of positive emotions	0.17 (0.03)	0.17	0.12	0.23

Between-Person Indirect Effects			
Path	<i>b</i> (<i>S.D.</i>)	95% Credible Intervals	
		LL	UL
FPE → Acceptance → Positive Affect	−0.97 (0.55)	−2.26	−0.15
FPE → Acceptance → Negative Affect	0.62 (0.78)	−0.82	2.26
FPE → Suppression → Positive Affect	−0.08 (0.25)	−0.63	0.39
FPE → Suppression → Negative Affect	1.76 (0.60)	0.74	3.08
FNE → Acceptance → Positive Affect	−0.35 (0.83)	−2.18	1.16
FNE → Acceptance → Negative Affect	−0.14 (0.48)	−1.39	0.51
FNE → Suppression → Positive Affect	−0.01 (0.20)	−0.51	0.36
FNE → Suppression → Negative Affect	−0.65 (0.77)	−2.31	0.64
Random Effects			
Variance	Est.	95% Credible Intervals	
		LL	UL
Level 1			
Acceptance of positive emotions	404.35 (10.04)	385.08	424.34
Suppression of positive emotions	405.57 (9.98)	386.98	425.82
Positive affect	455.64 (11.06)	434.41	478.23
Negative affect	393.02 (10.00)	373.71	412.67
Level 2			
Acceptance of positive emotions	576.11 (106.94)	411.85	826.30
Suppression of positive emotions	233.31 (44.59)	167.59	335.02
Positive affect	241.58 (46.03)	169.62	349.86
Negative affect	88.68 (17.98)	60.93	131.07
Random Slopes			
Acceptance → Positive Affect	0.04 (0.01)	0.02	0.07
Acceptance → Negative Affect	0.04 (0.01)	0.02	0.07
Suppression → Positive Affect	0.02 (0.01)	0.01	0.05
Suppression → Negative Affect	0.03 (0.01)	0.01	0.05

Note. FPE = Fear of positive evaluation; FNE = Fear of negative evaluation; Std. Est. = standardized estimate; Credible intervals are unstandardized; Significant effects are in bold.

Supplementary Table 4

Direct and Indirect Effects of FPE and FNE on Emotion Regulation of Negative Emotions and Positive and Negative Affect

Between-Person Effects				
Outcome Predictors	<i>b (S.D.)</i>	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Acceptance of Negative Emotions: R² = .18</i>				
Intercept	54.90 (3.52)	2.02	48.15	61.73
FPE	−3.68 (1.65)	−0.29	−7.05	−0.57
FNE	−3.78 (3.28)	−0.14	−10.28	2.71
Gender (male)	8.08 (6.12)	0.10	−3.38	20.55
Gender (diverse)	6.25 (25.10)	0.02	−43.00	56.59
<i>Suppression of Negative Emotions: R² = .33</i>				
Intercept	42.83 (2.68)	1.94	37.50	47.97
FPE	5.78 (1.23)	0.55	3.43	8.27
FNE	−1.64 (2.46)	−0.08	−6.48	3.30
Gender (male)	−13.01 (4.61)	−0.20	−22.04	−3.87
Gender (diverse)	11.92 (18.61)	0.05	−24.24	49.65
<i>Rumination: R² = .26</i>				
Intercept	31.69 (2.70)	1.48	26.25	37.11
FPE	4.64 (1.22)	0.46	2.30	7.07
FNE	−1.20 (2.50)	−0.06	−6.11	3.69
Gender (male)	−12.70 (4.69)	−0.20	−21.99	−3.50
Gender (diverse)	−24.43 (18.78)	−0.10	−61.69	13.12
<i>Positive Affect: R² = .17</i>				
Intercept	28.05 (9.46)	1.62	9.14	47.10
FPE	−1.07 (1.23)	−0.13	−3.39	1.34
FNE	1.08 (2.19)	0.07	−3.15	5.53
Acceptance of negative emotions	0.27 (0.10)	0.42	0.07	0.45
Suppression of negative emotions	0.20 (0.13)	0.25	−0.07	0.46
Rumination	0.01 (0.13)	0.02	−0.23	0.27
<i>Negative Affect: R² = .64</i>				
Intercept	12.63 (5.58)	0.87	2.35	23.98
FPE	2.18 (0.69)	0.31	0.82	3.54
FNE	0.45 (1.19)	0.03	−1.93	2.67
Acceptance of negative emotions	0.04 (0.06)	0.08	−0.08	0.15
Suppression of negative emotions	0.12 (0.08)	0.18	−0.04	0.27
Rumination	0.33 (0.07)	0.49	0.19	0.47

Within-Person Effects				
Outcome Predictors	<i>b</i> (<i>S.D.</i>)	Std. Est.	95% Credible Intervals	
			LL	UL
<i>Positive Affect: R² = .11</i>				
Time	0.05 (0.02)	0.03	-0.001	0.09
Acceptance of negative emotions	0.15 (0.03)	0.14	0.09	0.21
Suppression of negative emotions	0.01 (0.02)	0.01	-0.03	0.05
Rumination	-0.13 (0.03)	-0.13	-0.19	-0.08
<i>Negative Affect: R² = .21</i>				
Time	-0.00 (0.02)	-0.002	-0.04	0.04
Acceptance of negative emotions	-0.07 (0.02)	-0.07	-0.12	-0.03
Suppression of negative emotions	0.08 (0.02)	0.10	0.05	0.12
Rumination	0.33 (0.03)	0.33	0.27	0.39
<i>Between-Person Indirect Effects</i>				
Path	<i>b</i> (<i>S.D.</i>)	95% Credible Intervals		
		LL	UL	
FPE → Acceptance → Positive Affect	-0.92 (0.58)	-2.27	-0.06	
FPE → Acceptance → Negative Affect	1.11 (0.82)	-0.35	2.90	
FPE → Suppression → Positive Affect	0.05 (0.61)	-1.21	1.30	
FPE → Suppression → Negative Affect	-0.12 (0.24)	-0.70	0.31	
FPE → Rumination → Positive Affect	0.64 (0.48)	-0.19	1.68	
FPE → Rumination → Negative Affect	1.50 (0.53)	0.61	2.71	
FNE → Acceptance → Positive Affect	-0.90 (1.01)	-3.29	0.77	
FNE → Acceptance → Negative Affect	-0.22 (0.62)	-1.85	0.70	
FNE → Suppression → Positive Affect	-0.00 (0.35)	-0.80	0.77	
FNE → Suppression → Negative Affect	-0.09 (0.31)	-0.90	0.36	
FNE → Rumination → Positive Affect	-0.13 (0.37)	-1.08	0.43	
FNE → Rumination → Negative Affect	-0.38 (0.85)	-2.16	1.26	
<i>Random Effects</i>				
Variance	Est.	95% Credible Intervals		
		LL	UL	
<i>Level 1</i>				
Acceptance of negative emotions	470.32 (11.68)	447.33	493.12	
Suppression of negative emotions	690.54 (16.88)	659.41	725.01	
Rumination	496.99 (12.19)	473.34	521.55	
Positive affect	441.58 (11.20)	420.64	463.44	
Negative affect	336.37 (8.42)	320.26	353.54	
<i>Level 2</i>				
Acceptance of negative emotions	599.93 (115.05)	423.76	869.15	
Suppression of negative emotions	321.82 (65.10)	223.55	481.74	
Rumination	335.84 (66.38)	234.15	500.83	
Positive affect	247.98 (47.96)	177.46	366.17	
Negative affect	75.08 (15.54)	51.88	112.43	

Random Slopes

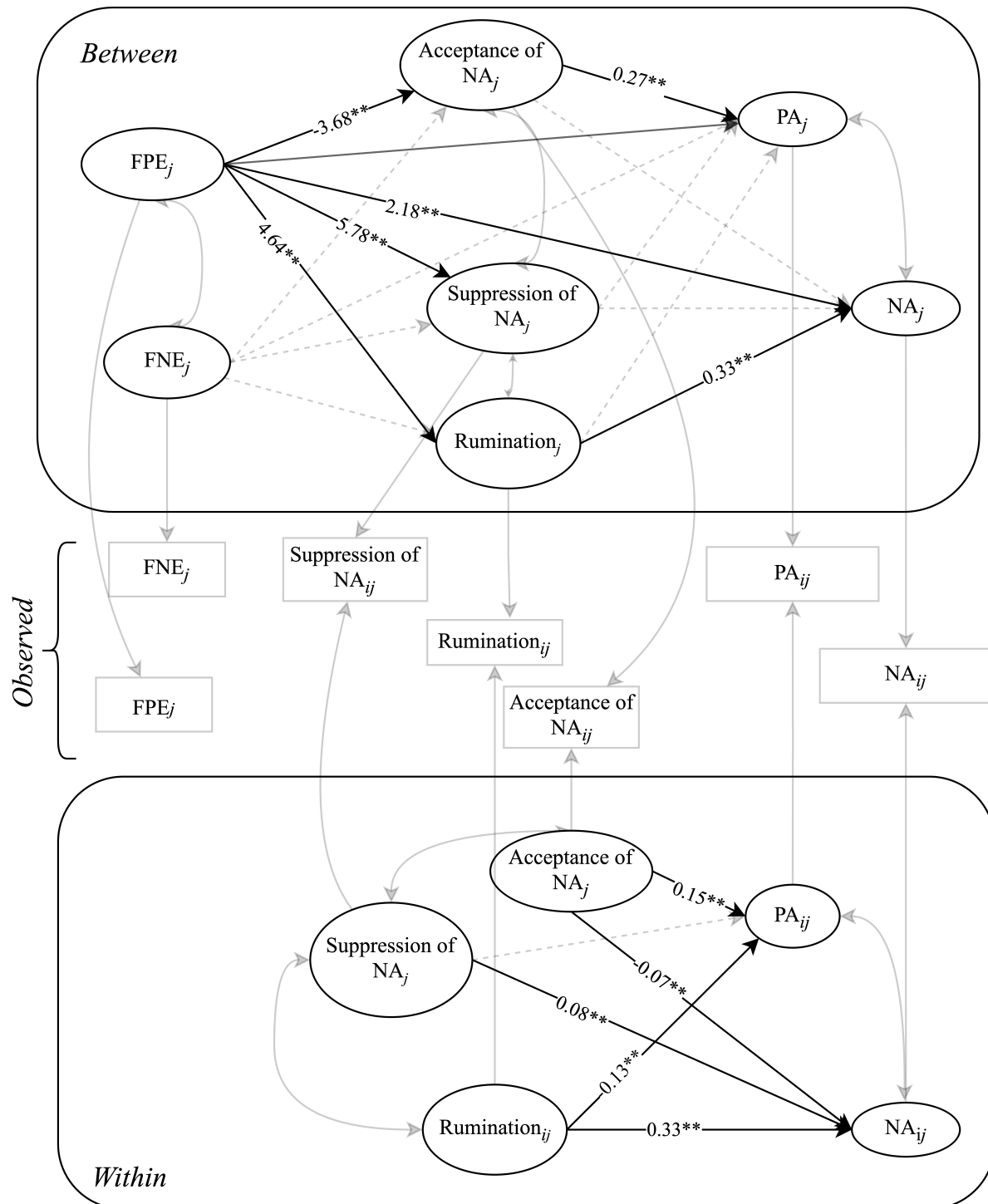
Acceptance → Positive Affect	0.05 (0.01)	0.03	0.08
Acceptance → Negative Affect	0.02 (0.01)	0.01	0.04
Suppression → Positive Affect	0.01 (0.01)	0.01	0.03
Suppression → Negative Affect	0.01 (0.00)	0.01	0.02
Rumination → Positive Affect	0.03 (0.01)	0.02	0.06
Rumination → Negative Affect	0.05 (0.01)	0.03	0.08

Note. FPE = Fear of positive evaluation; FNE = Fear of negative evaluation; Std. Est. = standardized estimate; Credible intervals are unstandardized; Significant effects are in bold.

Figures

Supplementary Figure 1

Indirect Effects of Fears of Evaluation on Daily Affect via Regulation of Negative Affect



Note. **Solid lines indicate significant effects whose 95% credible intervals did not include zero, dashed lines indicate non-significant effects.

Annexes

English Abstract

Social anxiety is among the most common anxiety disorders in adolescence, a period characterized by heightened social evaluation concerns and increased emotional reactivity. Alongside fear of negative evaluation (FNE), fear of positive evaluation (FPE), defined as feelings of apprehension and discomfort in response to praise or positive feedback, has emerged as a distinct construct. Although fears of evaluation have been theorized to act as regulatory forces shaping socially anxious individuals' affect and behavior, their associations with emotion regulation processes remain largely unexplored, particularly in adolescence. Therefore, this cumulative dissertation aimed to examine the roles of FPE and FNE in the relationship between adolescents' social anxiety and emotion regulation, and their contribution to social anxiety's impaired affect through emotion regulatory mechanisms, with a particular focus on acceptance, suppression, and rumination. Across four scientific papers resulting from two empirical studies, this dissertation combined cross-sectional, longitudinal, and Ecological Momentary Assessment methods to capture these associations in adolescence. **Chapter 1** employed structural equation modeling ($N = 647$ adolescents; 14–17 years) and showed that FPE and FNE mediated distinct pathways: FPE linked social anxiety to lower acceptance and greater suppression via a serial mediation, while FNE mediated the association with rumination. **Chapter 2** extended these findings longitudinally using Random Intercept Cross-Lagged Panel Models ($N = 684$ adolescents; 14–18 years; three waves over a total of six months), revealing prospective effects from acceptance to FPE, as well as prospective effects from suppression to social anxiety and from social anxiety to rumination. **Chapter 3** analyzed adolescents' daily experiences ($N = 47$ adolescents; 14–18 years; $k = 1,998$ observations) using multilevel structural equation modeling and showing that social anxiety was associated with lower acceptance, higher suppression, and more rumination,

which predicted lower positive and higher negative affect. Finally, **Chapter 4**, using the same statistical approach as in **Chapter 3** ($N = 80$ adolescents; 14–18 years; $k = 3,423$ observations), found that FPE was linked to greater negative affect following positive feedback, lower acceptance, higher suppression, and increased rumination, with suppression and rumination mediating its effects on daily affect. Together, these findings highlight fears of evaluation, particularly FPE, as central mechanisms linking social anxiety to emotion regulation difficulties and altered affective functioning in adolescence.

German Abstract

Soziale Angst zählt zu den häufigsten Angststörungen im Jugendalter, einer Entwicklungsphase, die durch ausgeprägte Ängste vor sozialer Bewertung und erhöhte emotionale Reaktivität gekennzeichnet ist. Neben der etablierten Furcht vor negativer Bewertung (FNE) hat sich die Furcht vor positiver Bewertung (FPE), definiert als Gefühle der Besorgnis und Anspannung bei Lob oder positiven Rückmeldungen, als eigenständiges Konstrukt herausgebildet. Obwohl Bewertungsängste als regulierende Kräfte angesehen werden, die den Affekt und das Verhalten sozial ängstlicher Personen prägen, sind ihre Zusammenhänge mit Emotionsregulationsprozessen im Jugendalter weitgehend unerforscht. Das Ziel dieser kumulativen Dissertation bestand daher darin, die Rollen von FPE und FNE im Zusammenhang zwischen sozialer Angst und Emotionsregulation bei Jugendlichen sowie ihren Beitrag zu affektiven Beeinträchtigungen sozialer Angst über Prozesse der Emotionsregulation zu untersuchen, mit besonderem Fokus auf Akzeptanz, Unterdrückung und Rumination. In vier wissenschaftlichen Arbeiten, die aus zwei empirischen Studien hervorgegangen sind, wurden Querschnitts-, Längsschnitt- und Ecological-Momentary-Assessment-Methoden kombiniert, um diese Zusammenhänge im Jugendalter zu beleuchten. In **Kapitel 1** wurde anhand eines Strukturgleichungsmodells ($N = 647$ Jugendliche; 14–17 Jahre) gezeigt, dass FPE und FNE unterschiedliche Pfade vermittelten: FPE mediierte den Zusammenhang zwischen sozialer Angst und geringerer Akzeptanz sowie stärkerer Unterdrückung in einer seriellen Mediation, während FNE den Zusammenhang mit Rumination vermittelte. In **Kapitel 2** wurden diese Befunde mittels Random Intercept Cross Lagged Panel Modelle erweitert ($N = 684$ Jugendliche; 14–18 Jahre; drei Erhebungswellen über sechs Monate), welche prospektive Effekte von Akzeptanz auf FPE, von Unterdrückung auf soziale Angst und von sozialer Angst auf Rumination zeigten. In **Kapitel 3** wurden Alltagserfahrungen von Jugendlichen ($N = 47$; 14–18 Jahre; $k = 1.998$ Beobachtungen)

anhand Multilevel Strukturgleichungsmodelle analysiert, die zeigten, dass soziale Angst mit geringerer Akzeptanz, stärkerer Unterdrückung und vermehrter Rumination verbunden war, die wiederum niedrigeren positiven und höheren negativen Affekt vorhersagten. In **Kapitel 4** wurde derselbe analytische Ansatz genutzt ($N = 80$; 14–18 Jahre; $k = 3.423$ Beobachtungen), der zeigte, dass FPE mit stärkerem negativen Affekt nach positivem Feedback, geringerer Akzeptanz, höherer Unterdrückung und vermehrter Rumination verbunden war, wobei die Akzeptanz und die Rumination die Effekte von FPE auf den täglichen Affekt vermittelten. Insgesamt verdeutlichen die Befunde, dass Bewertungsängste, insbesondere FPE, zentrale Mechanismen darstellen, die soziale Angst mit Emotionsregulationsschwierigkeiten und veränderten affektiven Prozessen im Jugendalter verbinden.

Publication List

Manuscripts under Review

Tsarpalis-Fragkoulidis, A., Kolar, D. R., & Zemp, M. (2025). *Fears of Evaluation and Emotion Regulation in Adolescents' Daily Life – An Ecological Momentary Assessment (EMA) Study*. PsyArXiv. https://doi.org/10.31234/osf.io/vzma8_v1

Van Eickels, R. L., **Tsarpalis-Fragkoulidis, A.,** Speyer, L. G., & Zemp, M. (2025). *Longitudinal associations of adolescents' shame-proneness, expressive suppression, and parental psychological control* [Manuscript submitted for publication].

Publications (Peer Reviewed)

Tsarpalis-Fragkoulidis, A., Kolar, D. R., Schneckenreiter, C., & Zemp, M. (2025). Social anxiety and emotion regulation in the everyday life of adolescents: An ecological momentary assessment (EMA) study. *Kindheit Und Entwicklung*, 34(3), 150–161. <https://doi.org/10.1026/0942-5403/a000492>

Tsarpalis-Fragkoulidis, A., Tran, U. S., & Zemp, M. (2024). Fears of positive and negative evaluation and their within-person associations with emotion regulation in adolescence: A longitudinal analysis. *Development and Psychopathology*, 37(4), 1756–1768. <https://doi.org/10.1017/S0954579424001366>

Tsarpalis-Fragkoulidis, A., & Zemp, M. (2024). Zusammenhänge zwischen Bewertungsängsten, Emotionsregulation und sozialer Angst bei Jugendlichen: Ein Strukturgleichungsmodell [Associations between evaluation fears, emotion regulation, and social anxiety in adolescents: A structural equation model]. *Psychologie in Erziehung und Unterricht*, 71, 101–115. <https://doi.org/10.2378/peu2024.art11d>

Tsarpalis-Fragkoulidis, A., van Eickels, R. L., & Zemp, M. (2022). Please don't compliment me! Fear of positive evaluation and emotion regulation-Implications for adolescents' social anxiety. *Journal of Clinical Medicine*, 11(20), 5979.

<https://doi.org/10.3390/jcm11205979>

van Eickels, R. L., **Tsarpalis-Fragkoulidis, A.,** & Zemp, M. (2022). Family cohesion, shame-proneness, expressive suppression, and adolescent mental health-A path model approach. *Frontiers in Psychology*, 13, 921250.

<https://doi.org/10.3389/fpsyg.2022.921250>

Vousoura, E., Makrygiorgos, N., **Tsarpalis-Fragkoulidis, A.,** & Nega, C. (2021). COVID-19-related anxiety: the role of intolerance to uncertainty and resilience. *Psychology: The Journal of the Hellenic Psychological Society*, 26(3), 44–61.

https://doi.org/10.12681/psy_hps.28862

Publications (without Peer-Review)

Tsarpalis-Fragkoulidis, A., & Zemp, M. (2025, September). Schule als Schauplatz sozialer Ängste. *Hausärzt:in*, 22–23.

Tsarpalis-Fragkoulidis, A., & Zemp, M. (2023). Emotionsregulation – Schlüssel für psychische Gesundheit. *Sozialpädagogische Impulse*, 1, 23–25.

Presentations and Posters

Tsarpalis-Fragkoulidis, A., Kolar, D. R., Schneckenreiter, C., & Zemp, M. (2025, April 10). *Fears of Positive and Negative Evaluation and Emotion Regulation in Adolescents'*

Daily Lives – an EMA study [Poster presentation]. 4. German Psychotherapy Congress, Berlin, Germany.

Tsarpalis-Fragkoulidis, A., Kolar, D. R., Schneckenreiter, C., & Zemp, M. (2024, September 16). *Emotion Regulation and Positivity Impairment in the Everyday Life of Socially Anxious Adolescents - An ecological momentary assessment (EMA) study* [Conference presentation]. 53rd Congress of the German Psychological Association and the 15th Conference of the Austrian Psychological Association, Vienna, Austria.

Tsarpalis-Fragkoulidis, A., Kolar, D. R., & Zemp, M. (2024, June 13). *Ängste vor Bewertung und Emotionsregulation im Alltag von Jugendlichen und ihre Implikationen für soziale Ängste: Eine EMA-Studie* [Conference presentation]. 3. German Psychotherapy Congress, Berlin, Germany.

Tsarpalis-Fragkoulidis, A., & Zemp, M. (2023, May 11). *Komplimente? Nein, danke! – Längsschnittliche Zusammenhänge zwischen Ängsten vor Bewertung und Emotionsregulation bei Jugendlichen* [Conference presentation]. 2. German Psychotherapy Congress, Berlin, Germany.

Tsarpalis-Fragkoulidis, A., van Eickels, R. L., & Zemp, M. (2022, September 6). *Spare me your compliments! The Role of Fear of Positive Evaluation and Emotion Regulation in Adolescents' Social Anxiety* [Poster presentation]. 14th Conference of the Austrian Psychological Association, Klagenfurt, Austria.

Tsarpalis-Fragkoulidis, A., van Eickels, R. L., & Zemp, M. (2022, June 8). *Please Don't Compliment me! The Role of Fear of Positive Evaluation and Emotion Regulation in Adolescents' Social Anxiety* [Poster presentation]. 1. German Psychotherapy Congress, Berlin, Germany.

Preregistrations

Tsarpalis-Fragkoulidis, A., Nater, U., Nester, J., Lowski, L., & Zemp, M. (2025, May 14).

Fear, Anxiety, And Cortisol In Everyday Interactions Of Teens - Face It! *OSF*

Registries. <https://osf.io/5ysc2>

Tsarpalis-Fragkoulidis, A., Kolar, D. R., & Zemp, M. (2023, February 27). Fear Of

Evaluation And Emotion Regulation In Adolescents' Daily Life And Their

Implications For Social Anxiety – An Ecological Momentary Assessment Study. *OSF*

Registries. <https://osf.io/srvj3>

Tsarpalis-Fragkoulidis, A., & Zemp, M. (2022, March 10). Please Don't Compliment Me!

The Role Of Fear Of Positive Evaluation In Social Anxiety. *OSF Registries.*

<https://osf.io/fgeb3>

Co-Supervision of Masters' Theses

The main supervision of the following master's theses was carried out by Prof. Dr. Martina Zemp. Achilleas Tsarpalis-Fragkoulidis served as co-supervisor, supporting the students with their research questions, data analysis, and writing.

Kainrath, L. (2025). *Erinnerte elterliche Fürsorge und Kontrolle im Zusammenhang mit Emotionsregulationsstrategien im Alltag: Eine Elektronische Tagebuchstudie.*

[Recalled parental care and control in relation to emotion regulation strategies in everyday life: An electronic diary study.] [Unpublished master's thesis]. University of Vienna.

Moser, K. (2025). *Elterliche psychologische Kontrolle und internalisierende Probleme im Jugendalter: Eine längsschnittliche Untersuchung zu Perfektionismus und Bewertungsängsten als Mediatoren.* [Parental psychological control and internalizing problems in adolescence: A longitudinal study on perfectionism and fear of evaluation as mediators] [Unpublished master's thesis]. University of Vienna.

Schilling, F. (2025) *Rumination und Depressivität im Alltag von Jugendlichen: Die Rolle des sozialen Kontexts – eine Ecological Momentary Assessment Studie.* [Rumination and depressive symptoms in adolescents' everyday lives: The role of the social context – an ecological momentary assessment study.] [Unpublished master's thesis]. University of Vienna.

Stellmach, S. (2025). *Elterliche psychologische Kontrolle und internalisierende Probleme von Jugendlichen – eine Längsschnittanalyse mit den vermittelnden Variablen sozial vorgeschriebener Perfektionismus und Rumination.* [Parental psychological control and adolescents' internalizing problems – a longitudinal analysis with the mediating variables socially prescribed perfectionism and rumination.] [Unpublished master's thesis]. University of Vienna.

- Müller, C. L. F. (2024). *Bitte keine Kritik! Eine elektronische Tagebuchstudie zur sozialen Ängstlichkeit, Rumination und Kritikerhalt bei Jugendlichen*. [Please, no criticism! An electronic diary study on social anxiety, rumination, and the receipt of criticism among adolescents.] [Unpublished master's thesis]. University of Vienna.
- Schneckenreiter, C. (2024). *Gefangen im Grau: Eine digitale Tagebuchstudie zur Untersuchung der sozialen Angstsymptome, des positiven Affektss und der Emotionsregulation von Jugendlichen*. [Trapped in gray: A digital diary study examining adolescents' social anxiety symptoms, positive affect, and emotion regulation] [Unpublished master's thesis]. University of Vienna.
- Langkabel, J.C. (2023). *Angst vor dem Glanz – Die Furcht vor positiver sozialer Bewertung im Alltag von Jugendlichen*. [Afraid of the shine – The fear of positive social evaluation in adolescents' everyday lives] [Unpublished master's thesis]. University of Vienna.
- Schleßling, L. (2023). *Angst vor Bewertung und Emotionssuppression bei Jugendlichen: Eine Elektronische Tagebuchstudie*. [Fear of evaluation and emotion suppression in adolescents: An electronic diary study.] [Unpublished master's thesis]. University of Vienna.
- Fössing, V. E. (2022). *Jugendliche soziale Ängstlichkeit und Angst vor Bewertung – die Rolle der Emotionsregulation*. [Adolescent social anxiety and fear of evaluation – the role of emotion regulation.] [Unpublished master's thesis]. University of Vienna.
- Liebel, M. (2022). *Die Angst vor (positiver) Bewertung – soziale Ängstlichkeit und Emotionssuppression bei Jugendlichen*. [The fear of (positive) evaluation – social anxiety and emotion suppression in adolescents.] [Unpublished master's thesis]. University of Vienna.

Academic Curriculum Vitae

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Education

<i>03/2024–present</i>	Psychotherapy Basic Training (Psychotherapeutisches Propädeutikum), Postgraduate Center, University of Vienna
<i>07/2021–present</i>	PhD candidate, Psychology (Natural Sciences), University of Vienna, Austria and Vienna Doctoral School in Cognition, Behavior and Neuroscience
<i>09/2017–10/2020</i>	Master of Science, Psychology (Focus: Clinical and Health Psychology), University of Vienna (with distinction)
<i>10/2011–04/2016</i>	Bachelor of Science, Psychology, University of Vienna

Academic Research

<i>2021–present</i>	PhD candidate, Psychology (Natural Sciences), University of Vienna, Austria and Vienna Doctoral School in Cognition, Behavior and Neuroscience. PI: Prof. Dr. Martina Zemp
<i>2018–2019</i>	Master's Thesis, Department of Clinical and Health Psychology, Faculty of Psychology, University of Vienna. Topic: Emotion regulation in social anxiety: The role of suppression – A study with a Greek Sample [Emotionsregulation bei sozialer Ängstlichkeit: Die Rolle der Unterdrückung von Gefühlen – Eine Studie mit einer griechischen Stichprobe]

Fellowship and Awards

<i>2022–2024</i>	Austrian Academy of Sciences: DOC Fellowship (€76,000)
<i>2025</i>	University of Vienna: The Stress of Life (SOLE) – Processes and Mechanisms underlying Everyday Life Stress – Seed Grant (€10,000)

Teaching Experience

<i>2023W</i>	Master's degree Course Psychology, University of Vienna: Theory and Empirical Research (Clinical Psychology and Health Psychology) II
<i>2023S</i>	Master's degree Course Psychology, University of Vienna: Theory and Empirical Research (Clinical Psychology and Health Psychology) I

2022W

Master's degree Course Psychology, University of Vienna: Theory and
Empirical Research (Clinical Psychology and Health Psychology) II

Student Representation

03/2023–present

Early Career Researchers, Faculty of Psychology, University of Vienna

Peer Reviews

Scientific Reports

Mindfulness

BMC Psychology

Research Skills

*Study Design and Data
Collection*

SoSci Survey: Panel and intensive longitudinal designs

*Data Analysis and
Management*

Mplus: Structural equation modeling, latent variable modeling with
longitudinal and multilevel data

SPSS: Data management

Language Skills

Greek

(Native language)

German

(C2)

English

(C2)

Italian

(B2)

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