



Fear of positive evaluation differentially predicts social anxiety: a six-month longitudinal panel study

Mehmet Peker¹ · Koray Akkus¹

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Abstract

This study investigated whether (a) fear of negative evaluation (FNE) and fear of positive evaluation (FPE) prospectively predict the other, (b) FPE predicts social anxiety controlling for FNE, and (c) FPE predicts social anxiety symptoms but not general anxiety and depression. Data were collected from a student sample at two time points over six months. The cross-lagged structural equation modeling results revealed that FNE and FPE do not prospectively predict the other, FPE positively predicts social anxiety symptoms controlling for FNE, and FPE does not significantly predict general anxiety or depression. These results confirmed that FNE and FPE are distinctively related to social anxiety. Moreover, the study findings indicated that FPE may be a factor unique to social anxiety.

Keywords Fear of positive evaluation · Fear of negative evaluation · Social anxiety · General anxiety · Depression

Social anxiety disorder (SAD) is one of the most prevalent mental disorders (Kessler et al., 2005; Ruscio et al., 2008) that is characterized by a marked fear or anxiety about social settings. The core feature of SAD is the fear of being evaluated by others and individuals with SAD avoid or endure severe anxiety in social situations such as meeting unfamiliar people, performing a speech, or eating and drinking in front of others (American Psychiatric Association, 2013). Additionally, high, unrealistic social standards, heightened self-focus, mental images from an external point of view (observer perspective) during social situations, anticipatory and post-event processing, overestimating visibility of physical symptoms of anxiety, and safety behaviors (e.g., avoiding eye contact, drinking alcohol before a social meeting) are among the important features of SAD (Clark & Wells, 1995; Heimberg et al., 2014; Hofmann, 2007). SAD usually begins in early adolescence, tends to become chronic if left untreated (Wittchen & Fehm, 2003), and is associated with

dissatisfaction and impairment in many areas of life (Stein & Kean, 2000; Aderka et al., 2012).

According to cognitive-behavioral models of SAD (e.g., Clark & Wells, 1995; Moscovitch, 2009; Rapee & Heimberg, 1997) and the *Diagnostic and Statistical Manual of Mental Disorders-5* (DSM-5, American Psychiatric Association, 2013), fear of negative evaluation (FNE) is an essential feature of SAD. To avoid being evaluated negatively, socially anxious individuals frequently demonstrate avoidance or safety behaviors that contribute to the maintenance of SAD (McManus et al., 2008; Wong & Rapee, 2016). Even though the evolutionary perspective suggests that FNE has an adaptive role in protecting people from being excluded (Gilbert, 2001), high levels of FNE may contribute to appraising social situations as more intimidating and threatening than they are (Dryman & Heimberg, 2015). Several studies found FNE is related to interpretation bias such that people with high FNE are more likely to interpret a positive or neutral/ambiguous social stimulus as more negative than those with low levels of FNE (Vancleef & Peters, 2008; Vasilopoulos, 2011). Individuals with such a distorted view of social settings and performances may experience more anxiety in social settings and avoid anxiety-provoking social situations, which in turn results in the maintenance of social anxiety. In support of this view, numerous empirical studies indicated that there is a strong association between FNE and

✉ Mehmet Peker
mehmet.peker@ege.edu.tr
Koray Akkus
koray_akkus@yahoo.com

¹ Department of Psychology, Faculty of Letters, Ege University, Izmir, Turkey

social anxiety symptoms (Carleton et al., 2007; Levinson et al., 2013; Weeks et al., 2005).

Although cognitive-behavioral models and empirical research suggest that FNE is the central feature of social anxiety, Weeks et al. (2008) proposed that fear of evaluation *in general*, in other words, evaluation regardless of valence, is important for SAD. They introduced a new cognitive concept relevant to social anxiety, fear of positive evaluation (FPE). Studies reported that FPE is significantly associated with social anxiety symptomatology controlling for FNE (Fetzner et al., 2016; Menatti et al., 2015; Reilly et al., 2012; Wang et al., 2012; Weeks et al., 2015; Weeks et al., 2008). Considering these findings, FPE was included as a component of social anxiety in the revised model of Heimberg, et al. (2014). Moreover, Skocic et al. (2015) proposed alternative diagnostic criteria for SAD, which included both FNE and FPE.

Theoretical discussions were offered to explain why people fear being evaluated positively. In the psycho-evolutionary model, Gilbert (2001) suggested that socially anxious individuals might get worried even though the social interaction goes well, which is called “fear of doing well”. It was argued that elevation of status within the group may result in conflict with other powerful members and “fear of doing well” protects people from this threat. Moreover, successful social performances may induce anxiety in people with SAD because such performances may cause others to expect more of them in the future. Consistent with this argument, Wallace & Alden (1995, 1997) found that following a positive and successful social interaction, socially anxious people believe that others expect more of them and they will not be able to meet others’ expectations.

This line of theory and research raised the possibility that FPE is the delayed form of FNE. Put differently, socially anxious people may not favor positive evaluations because such evaluations lead to an increase in others’ expectations of anxious people, and failure to meet those raised expectations is likely and bound to bring negative evaluations (Wallace & Alden, 1995, 1997). Additionally, both types of fear of evaluation involve being the focus of others’ attention and receiving evaluations, which can be positive or negative in terms of valence. However, even though such theorizing implies a significant overlap between FPE and FNE (Reichenberger & Blechert, 2018), empirical studies mostly indicate that FPE and FNE are correlated but distinct constructs. A recent systematic review examined factor analyses, correlations, and longitudinal studies to clarify the relationship between FPE and FNE. Factor analysis results consistently supported the two-factor model of FPE and FNE and the correlations between FPE and FNE ranged from small to large, suggesting that the two are correlated but distinct constructs (Fredrick & Luebke, 2020). However,

the studies investigating the relationship between FNE and FPE were mostly cross-sectional. To our knowledge, two studies investigated the longitudinal relationship between FPE and FNE. Rodebaugh et al. (2012) tested the weekly relationship between FNE and FPE across three weeks in a student sample by employing an autoregressive latent trajectory model. Their findings indicated that the trait components of FNE and FPE are moderately correlated, however, neither FNE nor FPE predicted the temporal changes in the other at the subsequent measurement. Johnson et al. (2020) investigated the weekly temporal associations between FNE and FPE over 12 weeks in a sample of individuals with SAD and found that both FNE and FPE had a small cross-lagged relationship with the other. Both studies concluded that FPE and FNE have distinct roles in the context of SAD. However, this line of research is still scarce, and more studies are needed to rule out alternative explanations for the differences in the findings of the two studies, such as sample characteristics. Moreover, as Rodebaugh et al. (2012) noted, longitudinal studies with a wider time interval between the measurements are warranted to clarify the association between FNE and FPE.

Previous research suggests that FNE is not specific to SAD, as it was involved in several other disorders. For example, FNE is associated with bulimic behaviors (Gilbert & Meyer, 2005; Utschig et al., 2010), disordered eating behaviors (McClintock & Evans, 2001), compulsive buying (Biolcati, 2017), perceived stress (Shafique et al., 2017), depression (O’Connor et al., 2002), and loneliness (Liu et al., 2020). However, FPE might be a cognitive factor unique to social anxiety. In support of this proposition, Wang et al. (2012) and Weeks (2015) found that FNE is associated with both social anxiety and depression, but FPE is significantly related to only social anxiety. Similarly, in a study conducted with a clinical sample, participants with SAD reported higher FPE scores than the non-SAD group, including participants suffering from general anxiety disorder, panic disorder, obsessive-compulsive disorder, or post-traumatic stress disorder (Fergus et al., 2009). These findings indicate that FPE might be a factor that is particularly relevant to social anxiety. However, the two longitudinal studies cited above investigated the longitudinal relationships between FNE, FPE, and social anxiety and revealed different findings. Rodebaugh et al. (2012) showed that the trait-like relationships among FNE, FPE, and social anxiety were significant. However, those underlying trait associations accounted for the temporal prospective relationships between the three variables, rendering them statistically insignificant. Johnson et al. (2020) found that FNE, but not FPE, directly predicted later social anxiety symptoms, and FPE is associated with social anxiety through FNE. Based on these findings, the authors concluded that interventions

regarding SAD should primarily target FNE, improvement in FNE might reduce FPE as well (Johnson et al., 2020). These discrepancies necessitate more longitudinal investigations. Both studies incorporated designs with rather short time intervals (e.g., a week) between the assessments which reflect individual differences in the measured constructs as well as responses to the situational influences. Therefore, investigating longitudinal associations between FNE, FPE, and social anxiety with a wider timeframe between the measurements may offer a novel understanding of the interplay between them. To this aim, this study investigates the prospective associations between FPE and social anxiety controlling for FNE. Moreover, both longitudinal studies tested the relationships between FNE, FPE, and social anxiety, however, neither investigated the argument that FPE may be a cognitive concept unique to social anxiety. The current study adds to the existing literature on FPE by testing this prediction longitudinally, in other words, investigating the longitudinal relationship of FPE with social anxiety, general anxiety, and depression.

Taken together, the current study aims to advance the research on FPE in several ways. First, and most importantly, the studies on FNE, FPE, and social anxiety are mostly cross-sectional, making it not possible to infer causality. Moreover, the cross-sectional and limited longitudinal studies report different findings about the unique contribution of FPE to social anxiety symptoms. Thus, this study aims to address this gap by utilizing a longitudinal study with a wider time interval. Second, since the majority of studies were conducted in Western countries, the generalizability of findings is limited (Fredrick & Luebbe, 2020). In support of this concern, Okawa et al. (2021) showed that while individuals in collectivistic countries (e.g., Japan and South Korea) report more FNE, FPE is higher in individualistic countries (e.g., Australia and the United States). Moreover, Okawa et al. (2021) found FPE directly predicts social anxiety in only individualistic countries. These findings suggest that more studies from non-western countries have the potential to contribute to the literature.

We address these limitations and previous call for research (Reichenberger & Blechert, 2018; Fredrick & Luebbe, 2020) with a six-month longitudinal cross-lagged panel study that investigates (a) whether FNE and FPE prospectively predict the other, (b) whether FPE predicts social anxiety symptoms controlling for FNE, and (c) whether FPE is unique social anxiety or is associated with other symptoms such as general anxiety and depression. Given that previous longitudinal studies revealed different results regarding the relationship between FNE and FPE (Johnson et al., 2020; Rodebaugh et al., 2012), we formulate the Research Question 1: Is there a prospective association (i.e., directional or reciprocal) between FNE and FPE? We also

hypothesize that (1) FPE prospectively predicts social anxiety controlling for FNE and prior social anxiety, and (2) FPE prospectively predicts social anxiety but not general anxiety and depression controlling for their baseline measurements.

Method

Participants and procedure

Undergraduate students from psychology and sociology programs were recruited for the two-wave data collection. Time 1 (T1) data were collected in December 2020 and Time 2 (T2) data were collected approximately six months later in June 2021. In T1, we reached 471 students (388 women and 83 men) with a mean age of 21.18 ($SD=3.37$) years. Out of 471 participants, 157 (124 women and 33 men) responded at T2 which resulted in a response rate of 33.33% and constituted our final sample. The mean age for the T2 sample was 21.49 ($SD=4.69$) years. We tested whether there is a systematic difference between the participants who responded at T2 and those who did not with t-tests (or chi-squared comparisons where applicable). The results showed that there were no significant differences between the two groups in terms of sex, $\chi^2(1, N=471)=1.87, p=.17$; age, $t(469)=1.39, p=.16$; FNE, $t(469)=1.67, p=.10$; FPE, $t(469)=1.71, p=.09$; social anxiety, $t(469)=0.92, p=.36$; depression, $t(469)=-1.32, p=.19$; and general anxiety, $t(469)=-0.45, p=.66$.

The data was collected with an online survey tool. All procedures followed in this study were in accordance with the Declaration of Helsinki and the ethics code of the Turkish Psychological Association (2004). The study data as well as the codes used in the analyses are available on the Open Science Framework (<https://osf.io/b8zr2/>). Participants were provided an informed consent form which states that the participation is voluntary, the responses will not be shared with third parties, and will only be used for research purposes. Those who accepted to participate responded to the study instruments. The responses were matched with the code names provided by the participants and the contact information (i.e., e-mail addresses) for T2 data collection was obtained with a separate link to ensure anonymity.

Measures

Fear of negative evaluation

Participants responded to the Brief Fear of Negative Evaluation Scale (Leary, 1983) that is translated into Turkish by Çetin et al. (2010). The scale consisted of 12 items that are rated on a 5-point (1 = *not at all*, 5 = *extremely*) Likert-type

scale (sample item: I am frequently afraid of other people noticing my shortcomings). The factor analysis of the Turkish translation showed that one item (item 4) does not work well and was dropped. Confirmatory factor analysis results of the Turkish translation showed that both one- and two-factor solutions provide an acceptable fit to the data. Çetin et al. (2010) reported a Cronbach alpha score of 0.84 for the one-factor solution. In this study, the total score was used.

Fear of positive evaluation

Fear of positive evaluation was assessed with the Fear of Positive Evaluation Scale (FPES) which is a 10-item scale developed by Weeks et al., (2008) and translated into Turkish by Doğan and Totan (2010). Two reverse-scored items are included to reduce acquiescence response bias and do not contribute to the scale score. The original scale had nine response points, but the Turkish translation adopted a 5-point response format based on the argument that labeling more than five response points makes the scale confusing for participants to rate in Turkish. Thus, participants rated their agreement with items on a 5-point (1 = *not at all true*, 5 = *very true*) scale (sample item: I feel uneasy when I receive praise from authority figures). The Cronbach alpha score was 0.73 in Doğan and Totan (2010).

Social anxiety

We used Liebowitz Social anxiety Scale (Liebowitz, 1987) to assess the social anxiety symptoms of participants. The scale was translated into Turkish by Soykan et al. (2003). Participants provided separate answers for the extent to which they experience fear in or avoid the 24 social situations depicted in the items using a 4-point (0 = *none*, 3 = *severe* for fear or anxiety subscale, and 0 = *never* to 3 = *usually* for avoidance subscale) scale (sample item: working while being observed). The Cronbach alpha value for the Turkish translation of the 48-item total scale was 0.98 (Soykan et al., 2003).

Depression and general anxiety

The depression and general anxiety symptoms were assessed with the Hospital Anxiety and Depression Scale developed by Zigmond and Snaith (1983) and translated into Turkish by Aydemir et al. (1997). Both the anxiety (sample item: I get sudden feelings of panic: 0 = *very often indeed*, 3 = *not at all*) and depression (sample item: I feel cheerful: 0 = *not at all*, 3 = *most of the time*, [reverse coded]) symptoms were measured with seven items that are rated on a 4-point scale and had different response labels for each question. Aydemir et al. (1997) reported Cronbach alpha values of 0.74 for

anxiety and 0.70 for depression in a sample of university students.

Data Analysis

The cross-lagged model analyses were conducted with structural equation modeling (Finkel, 1995) in Mplus 8 (Muthén & Muthén, 1998–2017). To avoid the problems related to the item-construct balance, we created three random parcels for each construct (Little et al., 2002) with mean scores (Little, 2013), and used the same items to derive parcels across the measurements. As a first step, we assessed the five-factor model and compared it with alternative models to assess the dimensionality of constructs. Specifically, we compared the proposed five-factor model with a one-factor model, a four-factor model (4-factor model A) in which social anxiety and general anxiety parcels constitute a single factor, a four-factor model (4-factor model B) in which FNE and FPE parcels constitute a single factor, and a 4-factor model (4-factor model C) in which general anxiety and depression parcels define a single factor. Next, we examined the invariance of the constructs across measurements in a single model. All the models included the constructs measured at both time points and the errors of the same parcels were let to correlate over time (Finkel, 1995). Specifically, we assessed the configural, metric, and scalar invariance of the variables (Little et al., 2007). We conducted chi-squared difference tests and used CFI < 0.01 criteria (Cheung & Rensvold, 2002) to test invariance across time. After that, we examined the cross-lagged models to test our hypotheses. We tested the autoregressive model and then compared it with the full cross-lagged model in which all the cross-lagged relationships were estimated. Time 2 constructs were allowed to correlate in analyses.

Results

Descriptive statistics and preliminary analyses

Table 1 displays means, standard deviations, correlations among variables, and Cronbach alpha estimates. The model tests that included all study variables provided a good fit to the data, and a better fit than one-factor and the three four-factor alternative models (see Table 2). These results indicated that the scales are distinct constructs. The invariance tests showed that the measures display configural, metric, and scalar invariance over time, as indicated by the non-significant chi-square differences between the compared models and the CFI reduction that is below 0.01 (see Table 2).

Table 1 Descriptive Statistics, Correlations among Variables and Reliability Estimates

Variable	1	2	3	4	5	6	7	8	9	10
1. FNE (T1)	(0.92)									
2. FPE (T1)	0.40**	(0.79)								
3. Social anxiety (T1)	0.51**	0.62**	(0.97)							
4. Depression (T1)	0.28**	0.24**	0.35**	(0.80)						
5. General anxiety (T1)	0.47**	0.30**	0.46**	0.56**	(0.83)					
6. FNE (T2)	0.70**	0.35**	0.50**	0.19*	0.31**	(0.93)				
7. FPE (T2)	0.33**	0.64**	0.48**	0.22**	0.24**	0.40**	(0.84)			
8. Social anxiety (T2)	0.51**	0.59**	0.78**	0.29**	0.35**	0.59**	0.64**	(0.96)		
9. Depression (T2)	0.32**	0.29**	0.43**	0.56**	0.50**	0.38**	0.32**	0.38**	(0.79)	
10. General anxiety (T2)	0.35**	0.19*	0.42**	0.45**	0.69**	0.38**	0.32**	0.42**	0.66**	(0.85)
Mean	33.21	21.80	52.82	8.26	10.61	32.64	21.65	48.23	8.11	10.13
SD	9.08	6.07	26.09	4.11	4.35	9.03	6.34	27.60	4.10	4.35

Note. N= 157. Reliability estimates were reported in parentheses on the diagonal. FNE: Fear of negative evaluation, FPE: Fear of positive evaluation T1: Time 1, T2: Time 2

*p < .05, ** p < .01

Table 2 The results of factor analyses, measurement invariance tests, and structural model analyses

Variable	χ^2	df	p	CFI	TLI	RMSEA	RMSEA 90%CI
Discriminant validity of study variables							
5-factor model	435.67	345	<0.001	0.978	0.972	0.041	(0.028; 0.052)
4-factor model A	837.09	362	<0.001	0.885	0.861	0.091	(0.083; 0.010)
Model difference	401.42	17	<0.001	0.093	0.111	-0.050	
4-factor model B	744.94	362	<0.001	0.907	0.888	0.082	(0.074; 0.090)
Model difference	309.27	17	<0.001	0.071	0.084	-0.041	
4-factor model C	530.36	362	<0.001	0.959	0.951	0.054	(0.044; 0.064)
Model difference	94.69	17	<0.001	0.019	0.021	-0.013	
1-factor model	1800.99	389	<0.001	0.657	0.617	0.152	(0.145; 0.159)
Model difference	1365.32	44	<0.001	0.321	0.355	-0.111	
Measurement invariance							
Free loadings	226.63	160	<0.001	0.982	0.976	0.052	(0.035; 0.066)
Loadings invariant	240.52	170	<0.001	0.980	0.976	0.051	(0.035; 0.066)
Model difference	13.89	10	0.178	0.002	0.000	0.001	
Intercepts invariant ^a	247.52	180	<0.001	0.981	0.978	0.049	(0.033; 0.063)
Model difference	20.89	20	0.403	0.001	-0.002	0.003	
Structural model							
Autoregressive model	484.64	365	<0.001	0.971	0.965	0.046	(0.034; 0.056)
Full cross-lagged model	435.67	345	0.001	0.978	0.972	0.041	(0.028; 0.052)
Model Difference	48.97	20	<0.001	0.007	0.007	-0.005	

Note. N= 157. ^aIntercepts invariant model is compared with the free loadings model. 4-factor model A: social anxiety and general anxiety parcels were loaded to a single factor. 4-factor model B: fear of negative evaluation and fear of positive evaluation parcels were loaded to a single factor. 4-factor model C: general anxiety and depression parcels were loaded to a single factor

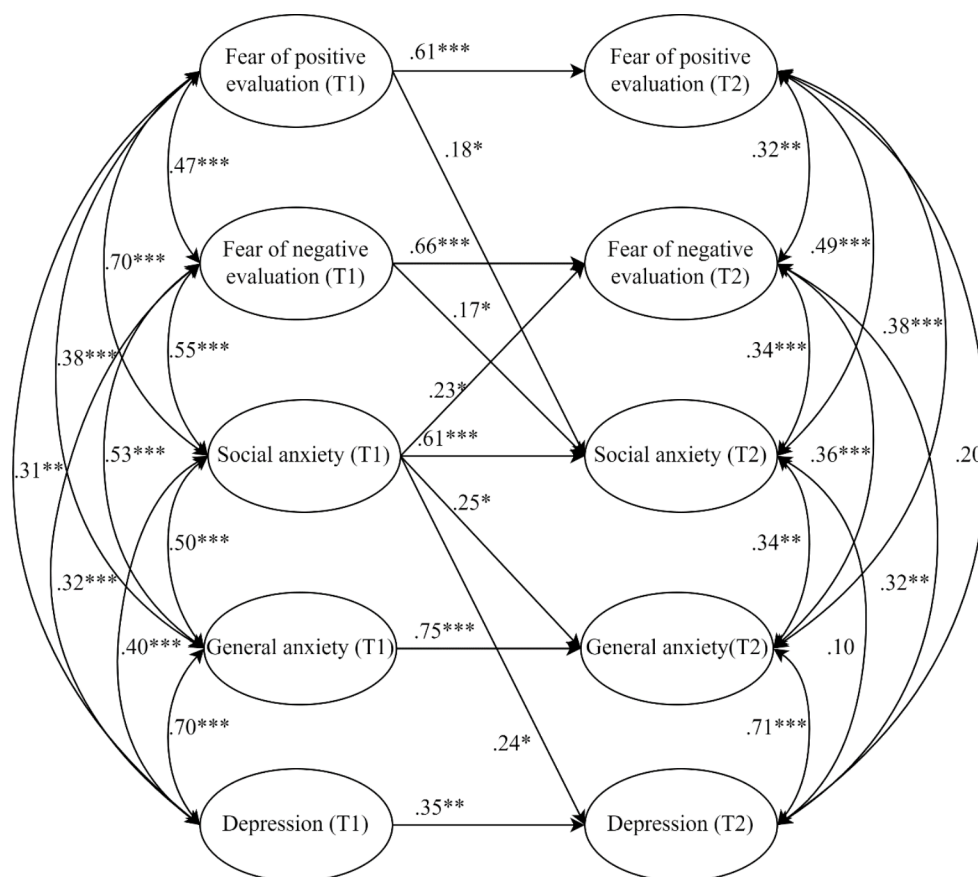
Cross-lagged model test

Table 2 shows the autoregressive and full cross-lagged model comparison. Figure 1 displays the standardized estimates for the significant relationships. To answer Research Question 1, we investigated the cross-lagged association between FNE and FPE. The results showed that neither the lagged effect of FPE on FNE ($\beta = -0.01, p = .94$) nor the lagged effect of FNE on FPE ($\beta = 0.06, p = .49$) was significant. We also tested this relationship with a model that only

included FNE and FPE given that the strong autoregressive and cross-lagged effects may influence the magnitude of relationships. The significance of the results did not change for both the lagged effect of FPE on FNE ($\beta = 0.11, p = .15$) and the lagged effect of FNE on FPE ($\beta = 0.09, p = .26$). These results were supportive of the findings that FNE and FPE do not prospectively predict the other.

Hypothesis 1 stated that T1 FPE predicts T2 social anxiety controlling for T1 FNE. As hypothesized, T1 FPE had

Fig. 1 The cross-lagged model analysis results
N = 157. Standardized estimates and significant relationships were reported. The factor indicators were not depicted in the figure for brevity. **p* < .05, ** *p* < .01, *** *p* < .001.



a significant lagged effect on T2 social anxiety ($\beta = 0.18$, $p = .03$), controlling for T1 FNE ($\beta = 0.17$, $p = .01$) as well as baseline social anxiety ($\beta = 0.61$, $p < .001$), T1 general anxiety ($\beta = -0.10$, $p = .33$), and T1 depression ($\beta = 0.03$, $p = .78$). Hypothesis 2 predicted that T1 FPE had a significant lagged effect on T2 social anxiety but not on T2 general anxiety and T2 depression. The analysis results supported the prediction, FPE had a significant lagged effect on social anxiety ($\beta = 0.18$, $p = .03$). The lagged effects of FPE on general anxiety ($\beta = -0.19$, $p = .07$) and depression ($\beta = -0.01$, $p = .95$), on the other hand, were not significant.

Discussion

This study sought to investigate the prospective association between FNE and FPE, the prospective relationship between FPE and social anxiety controlling for FNE, and the proposition that FPE uniquely predicts social anxiety. The study findings highlight three important results: (a) FPE and FNE do not prospectively predict the other, (b) FPE predicts social anxiety symptoms measured after a six-month interval controlling for FNE, as well as baseline social anxiety, general anxiety and depression, and (c) FPE is associated

with social anxiety but not with general anxiety and depression. These findings suggest that FPE is an important and unique cognitive factor for social anxiety.

The findings that neither FPE nor FNE prospectively predicted the other after a six-month interval and FNE and FPE predict social anxiety uniquely are consistent with the previous cross-sectional studies which formulate FPE and FNE as distinct processes in SAD (Fergus et al., 2009; Weeks, Heimberg & Rodebaugh, 2008; Weeks et al., 2012). This finding is in line with the three-week longitudinal study of Rodebaugh and colleagues (2012), which found that neither FNE nor FPE prospectively predicted the other after the trait-like variance is accounted for. Experimental studies also support the findings that FNE and FPE are distinct concepts. For example, Weeks et al. (2013) found that FPE is related to participants' discomfort responses to video clips that involve positive feedback but not the clips that involve negative feedback. Similarly, Reichenberger et al. (2015) reported that while high FPE is only associated with greater unpleasantness ratings to video clips simulating positive evaluations from others, high FNE is only related to unpleasantness ratings to negative evaluations. Taken together, our findings lend further support to the conceptualization of FPE as a distinct construct related to SAD. The psycho-evolutionary perspective offers explanations about

why FNE and FPE are distinct constructs. Gilbert (2014) noted that individuals with social anxiety consider their environment hierarchically organized and their main goal is to maintain their position by avoiding upward and downward shifts. In this perspective, while FNE protects people from being excluded from the group, FPE prevents them from upward shifts in the group, which might result in conflict with other powerful members. In other words, FPE and FNE might be distinct constructs because of their different adaptive goals (Reichenberger & Blechert, 2018; Fredrick & Luebbe, 2020).

Confirming Hypothesis 1, we found that FPE prospectively predicts social anxiety symptoms controlling for FNE. In other words, FPE has a unique contribution to subsequent social anxiety symptoms above FNE. In line with the present results, several cross-sectional studies have shown that FPE is associated with social anxiety controlling for FNE (Cook et al., 2018, 2022; Karp et al., 2018; Menatti et al., 2015; Weeks et al., 2008). However, our results differ from the results of the Johnson et al. (2020) study, which found that while FNE directly predicted future social anxiety severity, FPE was indirectly associated with future social anxiety through FNE. The discrepancy between our and Johnson et al. (2020) findings may be due to the sample characteristics or differences in measurement frequencies and intervals. Johnson et al. (2020) noted that their study participants were undergoing cognitive-behavioral therapy which included a treatment component aimed at identifying and modifying negative thoughts and images during data collection. However, the therapy did not have a component that may contribute to the reductions in FPE. The current study, on the other hand, assessed naturally occurring variations in the study variables and these design differences may explain the different results obtained in the two studies. All in all, our study showed that FPE has a unique contribution to subsequent social anxiety suggesting that socially anxious people fear any form of evaluation, consistent with the Bivalent Fear of Evaluation Model (Weeks & Howell, 2012) and cognitive model of SAD (Heimberg et al., 2014).

In addition to theoretical accounts such as Gilbert (2001), several empirical studies can provide explanations about why FPE is associated with social anxiety. First and most importantly, studies found that FPE is related to various avoidance behaviors which are maintaining factors for SAD (Lipton et al., 2014, 2016; Vagos et al., 2016). In support of these findings, experimental studies investigating the relationship between gaze avoidance and SAD reported that participants with SAD show greater gaze avoidance in response to both negative and positive video clips than the control group (Weeks et al., 2013, 2019). Additionally, there were no significant differences between the positive and negative social stimuli in terms of gaze avoidance in

the SAD group. These findings suggest that individuals with SAD have similar distress responses to both positive and negative stimuli, consistent with the Bivalent Fear of Evaluation Model (Weeks et al., 2013). In sum, individuals with high FPE tend to avoid social situations, which may contribute to the maintenance of SAD. Secondly, FPE may bring about cognitive distortions regarding SAD. It was found that FPE predicts negative and positive thoughts about typical social interactions controlling for FNE and social anxiety, suggesting that individuals with high FPE have more negative and less positive thoughts about social situations (Weeks & Howell, 2012). Thus, FPE might have a detrimental effect on the appraisal of social situations, which may lead to an increase in social anxiety. In the support of this view, Akkuş and Tekinsav-Sutcu (2022) conducted a study with a speech performance task in order to examine the unique role of FPE on performance appraisal. Results revealed that FPE is negatively associated with performance appraisal controlling for FNE and emotion regulation. In other words, higher FPE is related to negative subjective evaluations of social performance.

Although not hypothesized, the study results revealed that FNE prospectively predicts social anxiety symptoms. This finding is consistent with previous longitudinal (Fredrick & Luebbe, 2022; Johnson et al., 2020; Zhang et al., 2023) and cross-sectional (Carleton et al., 2007; Cook et al., 2022; Liu et al., 2022; Teale Sapach et al., 2015) studies and cognitive models of SAD (Clark & Wells, 1995; Hofmann, 2007; Rapee & Heimberg, 1997). FNE may make social situations more anxiety-provoking and produce more avoidance contributing to the maintenance of social anxiety (Heimberg et al., 2014). Additionally, several studies showed that individuals with high FNE interpret social cues more negatively (Amir et al., 2005; Kanai et al., 2010; Vancleff & Peters, 2008). Biased interpretations of social settings and social performances may strengthen maladaptive beliefs and result in elevated social anxiety symptoms, which are also emphasized in cognitive behavioral models of SAD (Clark & Wells, 1995; Heimberg et al., 2014; Hofmann, 2007).

Hypothesis 2 examined whether FPE is unique to social anxiety or associated with other problems such as general anxiety and depression. As expected, the only significant relationship was observed between FPE and social anxiety. In other words, FPE predicted social anxiety symptoms reported after six months but not general anxiety and depression. This finding supports the idea that FPE is a cognitive factor unique to social anxiety. In the support of this view, several cross-sectional studies reported that FPE is associated with only social anxiety (Weeks, 2015; Wang et al., 2012). Additionally, Fergus et al. (2009) found that

individuals with SAD have higher FPE scores than the non-SAD patient group. Therefore, our study provides further support to cited research by showing that FPE uniquely predicts social anxiety longitudinally. However, research also noted that FPE is an important factor for not only social anxiety but also depression. In an experimental study, FPE mediated the relationship between depressive symptoms and pleasantness responses to positive videos (Reichenberger et al., 2017). Similarly, longitudinal research showed that anticipatory anhedonia mediated the relationship between FPE and depression (Jordan et al., 2018). Thus, more longitudinal studies which include other psychopathologies are needed to draw definite conclusions.

The majority of the studies that examine the role of FPE in social anxiety were conducted with Western samples and a cross-cultural study (Okawa et al., 2021) reported that cultural differences may play a role in the FPE-social anxiety relationship. In this regard, our study contributes to the literature by presenting the prospective associations between FNE, FPE, and social anxiety with data collected from a non-western country. Different from the findings of Okawa et al. (2021) which indicated that FPE directly predicts social anxiety symptoms in only individualistic countries, we found that FPE has a unique role in social anxiety beyond FNE. In this sense, our findings are largely consistent with the cross-sectional study results from individualistic societies, which report that FPE is associated with social anxiety, and not with depression (Weeks, 2015; Wang et al., 2012). Accordingly, based on our findings, it can be concluded that the Bivalent Fear of Evaluation Model may be valid for some non-western societies. However, low sample size and sample characteristics limit the generalizability of findings and the results should be interpreted with these limitations in mind.

The findings of this study may provide important information for social anxiety interventions. Even though the cognitive-behavioral therapy for SAD that mostly focuses on FNE and its consequences (Fredrick & Luebbe, 2020; Weeks et al., 2020) is regarded as the first-line treatment for SAD, many people continue to experience some symptoms after treatment (Mayo-Wilson et al., 2014; Pelissolo et al., 2019). Studies report that even though standard cognitive-behavioral therapy protocols help to decrease both FNE and FPE, the decrease in FPE is smaller than FNE (Fergus et al., 2009; Weeks et al., 2012). This study resonates with previous research findings that including protocols that target FPE may improve treatment outcomes. To date, only one study examined the effectiveness of FPE-specific cognitive-behavioral therapy protocol which included psychoeducation about FPE, addressing maladaptive cognitions regarding FPE, and exposure to the situation in which one is

likely to be evaluated positively. The results were promising as the treatment group reported a decrease in FPE and social anxiety (Weeks et al., 2020). Studies comparing treatment programs that target FNE with those that target both FNE and FPE are needed to establish the value of including FPE in treatments.

Several limitations should be addressed. First, because the sample size is relatively small and the sample consists of only psychology and sociology students, the generalizability of the findings is limited. Further studies with a larger sample and participants diagnosed with SAD are needed. Second, the current study includes two measurements over six months, preventing the use of more advanced methods (e.g., Zyphur et al., 2020) that require three or more waves of measurements. Thus, future studies can incorporate longitudinal designs that assess six- or twelve-month lagged associations over three or more measurement waves. Moreover, the data collection took place during the COVID-19 pandemic, which may impact the results. In the support of this concern, several studies reported that the COVID-19 pandemic is associated with elevated depression (Bueno-Notivol et al., 2021; Ettman et al., 2020), anxiety (Salari et al., 2020), and social anxiety (Hawes et al., 2022). Therefore, replicating the current study after the impact of the pandemic diminishes is warranted.

Conclusion

Despite the limitations, our study has important contributions to the literature regarding FPE and social anxiety. It provides support for the proposition that FPE is not a delayed form of FNE, and they have distinct roles in the context of SAD. Moreover, to our knowledge, it is the first longitudinal study that shows FPE has a unique contribution to social anxiety symptoms beyond FNE, and FPE is associated with subsequent social anxiety, but not general anxiety and depression. Notably, studies investigating the relationship between FPE and social anxiety were mostly conducted in Western countries and our findings from Turkey make important contributions to the literature such that most of the prior findings were confirmed in a non-western country.

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Data Availability The data that support the findings of this study are available at <https://osf.io/b8zr2/>.

Declarations

Conflict of interest We declare that we know of no conflicts of interest associated with this publication.

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