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INVITED PAPER

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Multi-Informant Assessments of Individual Differences in Adolescents' Socio-Evaluative Fears: Clinical Correlates and Links to Arousal within Social Interactions

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Abstract

Objectives Socially anxious adolescents often display fears of negative evaluation (FNE) and fears of positive evaluation (FPE). The Bivalent Fear of Evaluation model posits that FNE and FPE represent two poles of socio-evaluative fears, and that individuals may simultaneously display high levels of FNE and FPE (high FNE/FPE). To what degree do adolescents who display high FNE/FPE differ in psychosocial functioning from adolescents who display high concerns on one domain and not the other (either high FNE/low FPE, or low FNE/high FPE), or low concerns on both domains (i.e., low FNE/FPE)? We tested this broader question (a) across multiple psychosocial domains, (b) using multiple informants' reports to identify adolescents' patterns of socio-evaluative fears, and (c) in relation to adolescents' reactions to anxiety-provoking social situations with unfamiliar peers.

Methods One-hundred twenty-seven 14–15-year-old adolescents and their parents completed measures of adolescents' FNE, FPE, and domains of psychosocial functioning (i.e., social anxiety, safety behaviors, depressive symptoms, psychosocial impairments). Adolescents participated in several social interaction tasks with unfamiliar peers. Adolescents self-reported on their arousal during these tasks and the unfamiliar peers with whom they interacted completed measures of social anxiety about the adolescent.

Results High FNE/FPE adolescents tended to display poorer psychosocial functioning relative to adolescents who displayed other patterns of socio-evaluative fears. Based on adolescent-classified groups, high FNE/FPE adolescents displayed greater self-reported arousal during social interactions, relative to the other groups.

Conclusions Identifying adolescents' patterns of socio-evaluative fears may inform interpretations of the individual differences among adolescents' clinical presentations of social anxiety.

Keywords Adolescents · Assessment · Fear of negative evaluation · Fear of positive evaluation · Social anxiety

Social Anxiety Disorder (SAD) is one of the most prevalent mental disorders (Kessler et al. 2005). SAD typically emerges during adolescence, a time when adolescents' social environments outside of the home (e.g., interactions with same-age peers) increase in their capacity to buffer against or increase risk for the emergence of social anxiety concerns (Alfano et al. 2011). If left untreated, SAD often persists into adulthood (Bögels et al. 2010). Therefore, adolescence represents a crucial period for which to develop evidence-based assessments of core features of the condition. Given that a core feature of SAD involves an intense fear and avoidance of social situations and interactions, the disorder can severely limit an individual's ability to develop interpersonal relationships (American Psychiatric Association [APA] 2013). Individuals experiencing SAD often fear activities in which their performance may be evaluated by others (Beidel et al. 2010; Weeks et al. 2008a, 2008b). This fear can pertain to both negative evaluation, with the belief

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that negative evaluation will lead to social exclusion, and positive evaluation, with the belief that positive evaluation will lead to competition with more popular or dominant others (Weeks and Howell 2012). Thus, among adolescents fears of evaluation may impact relationships with both peers and romantic partners (APA 2013).

Fears of evaluation comprise key concepts within cognitive theories on SAD (Clark and Wells 1995). Specifically, individuals experiencing SAD develop a maladaptive hypervigilance for social cues, which often results in these individuals entering social situations with a variety of preconceived notions regarding potential negative outcomes (Norton and Abbott 2016). For example, an adolescent preparing to deliver a class presentation may enter that situation with intense, perhaps unwarranted apprehension for receiving harsh evaluations from their teacher about their performance. Not surprisingly, high levels of these maladaptive cognitions relate to increased avoidance of social situations (Rapee and Heimberg 1997). One of the most widely studied SAD-related cognitions is the *fear of negative evaluation* (FNE; Clark and Wells 1995). Those who display high levels of FNE often believe that, within performance-based situations, observers will negatively evaluate their performance and/or hold expectations about their performance that they cannot meet. At extreme levels of FNE, these beliefs may result in impaired performance and/or avoidance of performance-based situations altogether (Abbott and Rapee 2004).

Although FNE plays a significant role in the avoidance behaviors exhibited by those experiencing SAD, recent work indicates that socio-evaluative fears and avoidance behaviors in SAD may also stem from the *fear of positive evaluation* (FPE; Heimberg et al. 2010; Weeks et al. 2008a, 2008b). For individuals experiencing SAD, FPE is the fear of the variety of possible consequences of praise or positive evaluation received from others (e.g., Gilbert 2001, 2014). First, individuals with high FPE may develop strong fears in reaction to situations involving public praise. A corollary of this fear is that public praise results in the perception, on the part of the individual being praised, that others will view the praise as threatening due to social competition (e.g., amongst students in a classroom; see Weeks et al. 2010). Second, individuals with FPE may also fear that positive evaluation in the *present* may lead to much higher, and unattainable, expectations in the *future* (e.g., see Gilbert 2014). To return to the class presentation example, consider an adolescent experiencing FPE who, following the presentation, received a positive evaluation from their teacher in front of the class about their performance. This adolescent's FPE might manifest as a fear that other students in the class perceive the praise as threatening in terms of evaluations of their own presentations. Relatedly, that same adolescent's FPE might manifest as a fear that the teacher now holds unattainable expectations for their performance on future class presentations. Consequently, these fears may impact perceptions of future performance relative to others, including fears of disappointing those in the future who previously evaluated them favorably. In sum, FPE complements our understanding of socio-evaluative fears relevant to SAD (Weeks and Howell 2012). Indeed, these concerns point to maladaptive reactions to social scenarios that are normally perceived by others to be quite positive or desirable.

Only recently have research and theory considered the joint contributions of FNE and FPE. In particular, the Bivalent Fear of Evaluation (BFOE) model (Weeks and Howell 2012) posits that FNE and FPE represent two poles of socio-evaluative fears that range from (a) not at all positive to extremely positive and (b) extremely negative to not at all negative. A key element of this model holds that some individuals experiencing SAD may simultaneously display relatively high levels of FNE *and* FPE. However, other individuals may display relatively high FNE concerns and at the same time, relatively low FPE concerns, or vice versa. In fact, these fears may relate to the fundamental self-image of individuals experiencing SAD. That is, high levels of FNE may further highlight an individual's own negative qualities, whereas high levels of FPE may minimize their positive qualities (Weeks et al. 2010). If true, then we expect individuals harboring increased fears relevant to perceived negative and positive qualities to encounter particularly high levels of social anxiety and related concerns, relative to individuals displaying fears stemming from either negative or positive qualities but not both. Stated another way, relative differences between levels of FNE and FPE may point to fundamentally distinct experiences with socio-evaluative fears. If so, understanding individual differences in these fears may improve their characterizations by revealing distinct patterns of displays of social anxiety concerns, as well as unique links to concerns that co-occur with social anxiety, such as behaviors used to minimize distress in social situations (i.e., *safety behaviors*), depressive symptoms, and psychosocial impairments (Epkins and Heckler 2011).

In a sample of college undergraduates, recent work examined these individual differences in socio-evaluative fears (Lipton et al. 2016). In this self-report study, undergraduates were classified as (a) low in both FNE and FPE, (b) high in FNE but not FPE, (c) high in FPE but not FNE, or (d) high in both FNE and FPE. Relative to those displaying low FNE and FPE, those self-reporting high socio-evaluative fears on either FNE or FPE also reported greater levels of social anxiety, safety behaviors, and depressive symptoms. Further, those reporting high FNE and FPE reported greater levels of all these domains, relative to the other three groups.

The findings of Lipton et al. (2016) support the joint contributions of FNE and FPE and their link to displays of social anxiety and related domains. As such, their study represented an important first step in studying individual differences in socio-evaluative fears. Yet, several important issues remain to be addressed. First, do these individual differences in FNE and FPE manifest among adolescents? This is an important question, considering that adolescence is a crucial developmental period for understanding the development and maintenance of social anxiety (Alfano et al. 2011). Second, what is the clinical value of understanding individual differences in FNE and FPE? For instance, can these individual differences in socio-evaluative fears predict how adolescents experience social interactions? If so, then we can expect that understanding patterns of FNE and FPE may facilitate planning treatment activities that maximize their utility in addressing clients' needs, such as exposures that target social situations personalized to relevant socio-evaluative fears (Weeks and Howell 2012).

Third, a key component of "best practices" in evidence-based assessment of adolescent social anxiety involves understanding social anxiety and related concerns from the perspectives of multiple informants, namely adolescents and their significant others (e.g., parents, peers; De Los Reyes et al. 2013; Silverman and Ollendick 2005). Given prior work and its exclusive focus on undergraduates' self-reports (Lipton et al. 2016), we sought to examine if findings from prior work would generalize to adolescent and parent reports of socio-evaluative fears, and whether these individual differences in socio-evaluative fears display clinical value within a multi-modal approach to assessing adolescent social anxiety.

The purpose of this study was to extend the literature on understanding individual differences in socio-evaluative fears. We tested four hypotheses in a mixed clinic/community adolescent sample including adolescents whose parents sought out a clinical evaluation for their social anxiety concerns (i.e., clinic-referred) and adolescents who participated with their parents in a community-based study of family relationships (i.e., community controls). First, consistent with prior work with college undergraduates (Lipton et al. 2016), we expected to identify individual differences in socio-evaluative fears such that four groups would emerge: (a) low FNE and low FPE, (b) high FNE and low FPE, (c) low FNE and high FPE, and (d) high FNE and high FPE. Second, multiple informants (e.g., parents and adolescents) commonly provide information in clinical evaluations of adolescent social anxiety, and these informants often disagree in their reports of social anxiety and related processes (De Los Reyes et al. 2013, 2015a, 2019a, 2019b). Thus, we expected compositions of these groups to vary by informant such that group identifications would yield low correspondence between adolescent and parent FNE/FPE reports. Third, consistent with the BFOE model (Weeks and Howell 2012), we expected the four groups to vary in their psychosocial functioning such that adolescents elevated in both FNE and FPE would also display the highest levels of psychosocial concerns relative to the other groups (i.e., increased social anxiety, safety behaviors, depressive symptoms, psychosocial impairments). Fourth, adolescents who experience social anxiety often display increased anxiety and arousal during social interactions (e.g., De Los Reyes et al. 2015b, 2017; Deros et al. 2018; Glenn et al. 2019). Thus, similar to our third hypothesis and consistent with the BFOE model, we expected the four groups to vary such that adolescents elevated in both FNE and FPE would also display the highest arousal within social interactions.

Method

Participants

Our sample of 127 families consisted of 14–15 year-old adolescents and their parents from the areas of Maryland; Washington, D.C.; and Northern Virginia. Families participating in the study met the following inclusion criteria: (a) fluency in English; (b) having a 14-to-15 year-old adolescent who: could read at or above their grade-level, did not have any learning or developmental disabilities, and had not received any cognitive behavioral therapy for anxiety or any other related concerns in the three months before phone screening; and (c) ability to understand the consent/assent process. Parents of clinic-referred adolescents were given referrals to services that could provide further assistance for any concerns the family had regarding their adolescent. Parents of clinic-referred adolescents were also given feedback on their adolescents' social anxiety, depressive symptoms, and attention and hyperactivity concerns, with a focus on levels that are considered clinically significant. Parents of community control adolescents were not given this feedback. This approach results in clinic-referred and community control groups that can be differentiated in levels of social anxiety and associated features (e.g., De Los Reyes et al. 2012; Deros et al. 2018; Glenn et al. 2019; Karp et al. 2018; Qasmieh et al. 2018; Thomas et al. 2012).

Within the total sample, we recruited 43 clinic-referred adolescents and 84 community control adolescents. Adolescents had a mean age of 14.46 years ($SD = 0.50$) and included 85 female and 42 male participants. The participating parent identified the adolescent's racial/ethnic background as African American or Black (53.5%); White, Caucasian American, or European (33.1%); Asian American or Asian (5.5%); Hispanic or Latino/a (Spanish)

(10.2%); American Indian (0.8%); or "Other" (7.9%). Ethnic/racial demographic rates total above 100% because parents could select multiple response options. Parents provided data about weekly family income using a survey that included response options on a 10-point Likert-type scale in $100 increments (e.g., $101–$200 per week). On this scale, per parents' reports, 33 of the families earned $500 or less per week, 28 earned between $501 and $900 per week, and 66 earned more than $901 per week.

Parents were the adolescent's biological mother/father (95.3%), adoptive mother/father (2.4%), stepmother/father (0.8%), the primary caregiver's significant other (0.8%), or the adolescent's guardian (0.8%). Parents reported their marital status as currently married (48.0%), never married (21.3%), divorced from a significant other (16.5%), separated from a significant other (8.7%), living with a significant other (4.7%), or widowed (0.8%). Our sample's demographic figures are consistent with economic and ethnic data for the geographic area of recruitment (U.S. Census Bureau 2016).

For aims tested below, we used an analytic approach involving examinations of the clinic-referred and community control groups as one combined sample. Support for this approach comes from (a) its use in prior work (e.g., De Los Reyes et al. 2017; Thomas et al. 2015), (b) current initiatives focused on dimensional models of psychopathology (e.g., Insel et al. 2010), (c) prior work indicating the enhanced psychometric soundness of dimensional relative to discrete approaches to measuring psychopathology (e.g., testing aims separately within sample sub-groups; Markon et al. 2011), and (d) evidence that FNE and FPE have dimensional (rather than taxonic) latent structures (Weeks et al. 2009). Given our approach, we tested whether the two groups in our sample varied on key indices, namely demographic characteristics. Thus, we conducted between-group tests of demographic differences among all the variables reported previously (i.e., adolescent age/gender, adolescent racial/ethnic background categories, family income, parent's relationship to adolescent, parent's marital status). Given the exploratory nature of these tests, we applied a Bonferroni correction (i.e., 11 tests and thus a corrected p value of .0045). Consistent with prior work (see Deros et al. 2018; Karp et al. 2018; Rausch et al. 2017), we observed non-significant differences between the two groups, thereby justifying our use of this sampling approach.

Procedure

All procedures were approved by the Internal Review Board of a large Mid-Atlantic university at which the study was conducted. Participants for the study were recruited through a variety of strategies, including advertisements posted online (e.g., Craigslist, laboratory website), on public transportation servicing the university and community at large, and on local advertisement boards. We also recruited through the offices of local clinicians serving our targeted demographic group. Parents completed an initial screen for eligibility over the telephone and, if eligible, were subsequently scheduled to complete an assessment in our laboratory offices. During the laboratory assessment, and after providing parental consent and adolescent assent for participation in the study, dyads participated in an in-person assessment and independently completed a counterbalanced battery of survey measures. Dyads completed these survey measures on computers using Qualtrics Survey data collection software. Adolescents also participated in a series of mock social interaction scenarios, which we describe below. Following each social interaction task, adolescents provided self-report ratings of their arousal. Families received $100 in monetary compensation ($50 to the parent, $50 to the adolescent). Further, participants were debriefed on study activities, including elements of study deception as described below (e.g., interactions with research personnel trained to interact with participants as same-age peer confederates).

Survey Measures

We administered a multi-informant survey battery to address our four research aims. As part of this battery, parents completed a demographics form to collect information about the adolescent, parent, and family, which we described previously.

Adolescent and parent survey measures

Adolescents and parents completed several survey measures about adolescents' psychosocial functioning. Adolescents completed self-report surveys, and parents completed a modified version of these surveys to report on the adolescents' functioning (e.g., "I" for adolescent self-report measure modified to read, "My child," for the parent report version). Table 1 provides the sample internal consistency estimates for all surveys.

Socio-evaluative fears

We assessed socio-evaluative fears using two scales. First, we assessed FNE using the Brief Fear of Negative Evaluation scale (BFNE; Leary 1983). Among the BFNE's 12 items, 4 are reverse-scored (e.g., "I am afraid people will find fault with me"), using a 5-point Likert-type rating ranging from 1 (not at all characteristic of me) to 5 (extremely characteristic of me). Second, we assessed FPE using the Fear of Positive Evaluation Scale (FPES; Weeks et al. 2008a, 2008b). This 10-item scale includes two

Table 1 Means (M), Standard Deviations (SD), and Internal Consistency (α) estimates of survey measures administered to adolescents, parents, and unfamiliar peer confederates

Variable	*M*	*SD*	*α*
Brief Fear of Negative Evaluation Scale			
Adolescent self-report	34.75	9.19	0.87
Parent report about adolescent	34.71	9.78	0.90
Fear of Positive Evaluation Scale			
Adolescent self-report	25.23	15.20	0.84
Parent report about adolescent	23.47	15.70	0.86
Subtle Avoidance Frequency Examination			
Adolescent self-report	66.49	20.44	0.93
Parent report about adolescent	65.35	17.15	0.91
Social Phobia and Anxiety Inventory for Children			
Adolescent self-report	17.30	10.59	0.95
Parent report about adolescent	17.95	10.84	0.95
Social Interaction Anxiety Scale			
Peer confederate report about adolescent	36.17	17.44	0.96
Beck Depression Inventory-II			
Adolescent self-report, raw	13.26	10.85	0.92
Adolescent self-report, square root	3.34	1.46	
Parent report about adolescent, raw	6.88	8.02	0.90
Parent report about adolescent, square root	2.10	1.57	
Work and Social Adjustment Scale for Youth			
Adolescent self-report	10.29	8.14	0.85
Parent report about adolescent	9.03	7.80	0.83

reverse-scored items (for detecting response biases) that are not used to calculate the total score. Respondents make Likert-type ratings ranging from 0 (not at all true) to 9 (very true) (e.g., "I don't like to be noticed in public places, even though I feel as though I am being admired"). For both measures, greater scores reflect greater socio-evaluative fears. When administered to adolescents, both the BFNE and FPES relate positively to survey measures of social anxiety, adolescents' state arousal in social interactions, and can distinguish adolescents on referral status (i.e., clinic-referred vs. community controls; Karp et al. 2018; Lipton et al. 2014).

Social anxiety

Adolescents and parents completed the widely-used Social Phobia and Anxiety Inventory for Children (SPAIC; Beidel et al. 1995). Each item on this 26-item measure describes a social situation (e.g., "I feel scared when I meet new kids"), and the respondent endorses how often the adolescent feels nervous or scared when encountering such a scenario. The scale used a 3-point Likert-type scale ranging from 0 (Never) to 2 (Always). Greater scores indicate greater social anxiety. Adolescent and parent SPAIC reports have been used extensively to assess social anxiety among adolescents (e.g., Beale et al. 2018; Deros et al. 2018; Glenn et al. 2019; Keeley et al. 2018).

Safety behaviors

We measured adolescent's engagement in safety behaviors using the Subtle Avoidance Frequency Examination (SAFE; Cuming et al. 2009). The SAFE is a 32-item measure, with each item describing a behavior used to minimize distress during an anxiety-provoking social situation. Adolescents and parents endorse the frequency with which the adolescent engages in the behavior, using response options ranging from 1 (Never) to 5 (Always), with greater scores indicating greater use of safety behaviors. Item examples include "Rehearse sentences in your mind" and "Wear clothes or makeup to hide blushing." When administered to adolescents and their parents, prior work demonstrates that SAFE reports possess high levels of internal consistency, relate positively to well-established measures of social anxiety, and distinguish adolescents on both referral status (i.e., clinic-referred vs. community controls) and clinical severity of social anxiety concerns (Qasmieh et al. 2018; Thomas et al. 2012).

Depressive symptoms

Adolescents and parents completed a modified version of the Beck Depression Inventory – II (BDI-II; Beck et al. 1996). The BDI-II is a commonly used 21-item measure in assessments of depressive symptoms and was originally designed to measure "the severity of depression in adults and adolescents aged 13 years and older" (Beck et al. 1996, p. 1). Respondents were asked to rate items describing symptoms of depression on a 4-point scale (i.e., 0–3), with possible score ranges from 0 to 63, and higher scores indicating greater depressive symptoms. In our administration of the BDI-II, we excluded item 9 (which assesses for suicidal thoughts and actions) and item 21 (which inquires about loss of interest in sex); thus, total scores on our modified 19-item BDI-II ranged from 0 to 57. Consistent with prior work (e.g., De Los Reyes et al. 2019c; Karp et al. 2018; Rausch et al. 2017), we did not administer these two items given the mature nature of the item content and because parents in our studies often decline to consent to having their adolescents respond to items that assess these behaviors. Internal consistency estimates of the 19 items administered nonetheless demonstrated high internal consistency (see Table 1). As part of this approach and to ensure comparability with scoring for the full version of the measure (i.e., possible score ranges from 0 to 63), responses for items 9 and 21 were pro-rated/estimated for each participant, based on their mean score for the 19 items which

were administered. Several studies support use of the BDI-II to assess depressive symptoms among adolescents within the age range of our sample (e.g., Deros et al. 2018; Lipton et al. 2014; Thomas et al. 2012; VanVoorhis and Blumentritt 2007).

Psychosocial impairments

We measured psychosocial impairments using the Work and Social Adjustment Scale for Youth (WSASY; De Los Reyes et al. 2019c), a developmentally adapted measure originally constructed for use with adults (Mundt et al. 2002). The WSASY consists of five items, for which informants provide ratings on a scale ranging from 0 (Not at all impaired) to 8 (Very severely impaired). Total scores range from 0 to 40, with higher scores indicating greater impairment. The WSASY's instructions for completion prompt informants to rate impairment resulting from the adolescent's behavior, without mention of mental health concerns or status. In this way, adolescents and parents provide reports about adolescent impairment on the WSASY, regardless of the adolescent's mental health status. Scores from the WSASY relate to scores on a host of measures of adolescent internalizing and externalizing domains and the psychosocial environment (e.g., family, parent, and peer functioning), distinguish adolescents who display co-occurring mental health concerns from those who do not, and relate to observed social skills deficits within social interactions with unfamiliar peers (De Los Reyes et al. 2019c).

Behavioral Measures

Adolescents participated in a series of counterbalanced social interaction tasks (totaling approximately 20 min in duration). These tasks included a Simulated Social Interaction Test (SSIT), Unstructured Conversation Task (UCT), and Impromptu Speech Task (IST; all adapted from Beidel et al. 2010). Extensive descriptions of these tasks are available elsewhere (i.e., Deros et al. 2018; Glenn et al. 2019; Rausch et al. 2017). Within these tasks, adolescents interact in a series of situations with undergraduate research assistants who were trained to pose as 14–15 year-olds. We masked these *unfamiliar peer confederates* to adolescents' referral status and all other clinical data, and they had no contact with participants prior to the tasks. Adolescents' reactions to interacting with these peer confederates predict their reactions to independent tasks where they are instructed to interact with same-age peers (see Karp et al. 2018).

The SSIT consists of a series of five role-plays between an adolescent and a gender-matched peer confederate (i.e., offering/accepting assistance, giving/receiving a compliment, and responding to inappropriate behavior). In the UCT, adolescents participate in a 3-min role-play with a peer confederate, and research personnel instruct the adolescent to "Pretend you are at a new school and you don't know anyone." Peer confederates are trained to respond neutrally to the participant and allow the participant to lead the conversation. Finally, during the IST the adolescent delivers a speech to unfamiliar peers about topics not often discussed by adolescents (i.e., politics, public health). The audience consisted of the task administrator and two trained confederates with whom the adolescent had no prior contact. Adolescents delivered a 10-min speech following a 3-min period of preparation. If after a minimum of 3 min an adolescent wished to terminate their speech, we permitted them to do so.

Adolescents' self-reported state arousal

At a resting baseline period and after each task, adolescents reported self-perceived levels of internal arousal using a paper version of the Self-Assessment Manikin (SAM) measure (Lang 1980). The SAM is a 5-level pictorial scale of affect ranging from 1 (close-eyed/relaxed image) to 5 (wide-eyed/nervous image). Adolescents completed a baseline rating of arousal ($M = 1.57$; $SD = 0.62$). They also completed SAM ratings after each task, including all SSIT role-plays: (a) offering assistance ($M = 2.32$; $SD = 1.03$), (b) accepting assistance ($M = 1.77$; $SD = 0.90$), (c) giving a compliment ($M = 1.90$; $SD = 1.07$), (d) receiving a compliment ($M = 1.74$; $SD = 0.94$), and (d) responding to inappropriate peer behavior ($M = 2.18$; $SD = 1.10$). Adolescents completed a SAM rating following the UCT ($M = 2.75$; $SD = 1.21$), and the IST ($M = 3.71$; $SD = 1.11$; one adolescent refused to give a speech and thus did not provide a SAM rating following the IST). For analyses reported below, we sought to examine changes in SAM task ratings relative to baseline. The seven SAM task ratings displayed a high internal consistency ($\alpha = 0.88$) and mean inter-item correlation ($r = 0.53$). Thus, we calculated a mean SAM rating for use in these analyses ($M = 2.34$; $SD = 0.81$; for the one adolescent who did not provide a SAM rating for the IST, we based their mean rating on the SAM ratings for the other six tasks).

Peer confederate reports on adolescent social anxiety

Peer confederates reported on adolescent social anxiety using a modified form of the Social Interaction Anxiety Scale (SIAS; Mattick and Clarke 1998). The SIAS consists of a 20-item scale that addresses social anxiety concerns relevant to direct social engagement (e.g., "The participant has difficulty making eye-contact with others"). Each item in the measure is rated on a Likert-type scale ranging from 0 (Not at all characteristic or true of me) to 4 (Extremely characteristic or true of me). Total scores range from 0 to 80, with higher scores

Table 2 Correlations among survey measures of adolescent socio-evaluative fears, safety behaviors, social anxiety, depressive symptoms, and psychosocial impairments

Variable (Informant)	1	2	3	4	5	6	7	8	9	10	11	12	13
1 BFNE (A)		0.32***	0.62***	0.25**	0.64***	0.29**	0.67***	0.28**	0.27**	0.49***	0.07	0.35***	0.17
2 BFNE (P)			0.25**	0.58***	0.26**	0.49***	0.24**	0.71***	0.17	0.26**	0.54***	0.23**	0.52***
3 FPES (A)				0.15	0.70***	0.25**	0.74***	0.20*	0.37***	0.50***	0.17	0.50***	0.24**
4 FPES (P)					0.21*	0.67***	0.20*	0.75***	0.06	0.12	0.48***	0.10	0.47***
5 SAFE (A)						0.35***	0.78***	0.26**	0.34***	0.54***	0.24**	0.49***	0.17
6 SAFE (P)							0.31***	0.68***	0.18*	0.30**	0.49***	0.19*	0.52***
7 SPAIC (A)								0.31***	0.42***	0.53***	0.03	0.44***	0.15
8 SPAIC (P)									0.22*	0.22*	0.52***	0.23**	0.56***
9 SIAS (C)										0.29**	0.08	0.24**	0.19*
10 BDI-II (A)											0.33***	0.46***	0.27**
11 BDI-II (P)												0.31***	0.63***
12 WSASY (A)													0.26**
13 WSASY (P)													

Due to 2 peer confederates not providing SIAS reports, analyses involving the SIAS are based on data from 125 participants

A adolescent, *P* parent, *C* confederate, *BFNE* Brief Fear of Negative Evaluation Scale, *FPES* Fear of Positive Evaluation Scale, *SAFE* Subtle Avoidance Frequency Examination, *SPAIC* Social Phobia and Anxiety Inventory for Children, *SIAS* Social Interaction Anxiety Scale, *BDI-II* Beck Depression Inventory-II, *WSASY* Work and Social Adjustment Scale for Youth

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

reflecting higher levels of perceived social anxiety concerns. Peer confederates' SIAS reports have previously displayed high internal consistency, convergent validity, incremental validity (i.e., relative to parent reports on the same instruments), criterion-related validity (i.e., predicting adolescents' arousal within social interactions), and the ability to distinguish adolescents with regard to referral status (i.e., clinic-referred vs. community controls); moreover, peer confederates' SIAS reports have been shown in prior work to relate to independent observers' ratings of adolescents' anxiety and social skills within social interactions (Deros et al. 2018; Glenn et al. 2019; Qasmieh et al. 2018).

Data Analytic Plan

We took a four-step approach to executing our planned data analyses. First, in order to examine individual differences in socio-evaluative fears, we adopted the approach taken by Lipton et al. (2016). Specifically, we first classified groups of individuals who were high versus low in each domain of socio-evaluative fears (i.e., FNE and FPE) by dichotomizing participants' total scores on the BFNE and FPES and creating two nominal variables using the top 25% of participants' scores as a cut-off (i.e., 1 = top 25%, 0 = below top 25%). As in Lipton et al. (2016), we considered examining these constructs continuously; however, our FPES and BFNE variables displayed relatively high correlations in the current study and thus high multicollinearity (Table 2)—therefore, entering both measures as independent variables in a model would likely reduce statistical power (Cohen et al. 2003). Consequently, we dichotomized our key variables to optimally index individual differences in socio-evaluative fears. That is, we collapsed these two variables into a single variable that represented four different groups; namely, individuals who were: (a) low in FNE and low in FPE (i.e., Low BFNE/Low FPES), (b) high in FNE and low in FPE (i.e., High BFNE/Low FPES), (c) low in FNE and high in FPE (i.e., Low BFNE/High FPES), and (d) high in FNE and high in FPE (i.e., High BFNE/High FPES). We computed two sets of these groups; one based on adolescent report and one based on parent report.

Second, to test the cross-informant correspondence of individual differences in socio-evaluative fears and the links between these individual differences, we computed chi-square statistics for the relation between socio-evaluative fear groups based on adolescent report and parent report. Third, to examine the links between individual differences in socio-evaluative fears and levels of psychosocial functioning, we conducted a series of multivariate analysis of variance (MANOVA) tests. In these MANOVAs, we entered adolescent-classified or parent-classified socio-evaluative fear groups as the between-subjects factor, and entered adolescent reports, parent reports, or peer confederate reports of adolescent psychosocial functioning as dependent variables. In the presence of a significant omnibus group effect (i.e., via the Roy's Largest Root *F* test), we conducted follow-up univariate comparisons. Consistent with our research aims, we compared the High BFNE/High FPES group relative to all other groups. Thus, these tests were directional in nature such that in each comparison, we

expected the reference group to display poorer levels of psychosocial functioning relative to the other groups. Thus, we conducted directional, univariate tests using the Dunnett *t*-test statistic. We chose this test because it implements a consistent control group, thus minimizing Type I error and providing increased statistical power, relative to tests of comparisons of all possible group pairs.

Fourth, we tested the links between individual differences in socio-evaluative fears and adolescents' state arousal within social interactions. Specifically, these tests involved examining adolescents' self-reported state arousal across baseline and social interaction task assessments. These arousal reports were repeated-measures assessments that reflected non-independent observations and thus displayed correlated data structures, violating assumptions underlying the general linear model (GLM). Thus, we addressed this aim using generalized estimating equations (GEE), an extension of the general linear model that assumes correlated observations of dependent variables (Hanley et al. 2003).

For GEE modeling, we used an identity link function with an unstructured correlation matrix given the small number of dependent variables. We modeled adolescents' self-reported state arousal as a nested, repeated-measures (within time) dependent variable and modeled the dependent variable as a function of three factors. Specifically, we entered a within-subjects Time factor (coded baseline SAM, then task SAM), a between-subjects socio-evaluative fears group factor (coded in successive order of Low BFNE/Low FPES, High BFNE/Low FPES, Low BFNE/High FPES, and High BFNE/High FPES), and the interaction between these two factors. We sought to examine differences between the High BFNE/High FPES group and other groups in adolescents' arousal, in reaction to social interactions with unfamiliar peers. Thus, in the presence of significant effects, we conducted follow-up univariate contrasts for three key effects or differences in task SAM arousal for High BFNE/High FPES vs.: (a) Low BFNE/Low FPES, (b) High BFNE/Low FPES, and (c) Low BFNE/High FPES.

For all tests described in our analytic plan, we inferred the statistical significance of findings relative to a *p*-value threshold of < 0.05, and we inferred magnitudes of effect sizes based on Cohen's (1988) effect size conventions for the effect sizes *d* (small: 0.30; medium: 0.50; large: 0.80) and *r* (small: 0.10; medium: 0.30; large: 0.50).

Results

Preliminary Analyses

We computed means, standard deviations, and skewness and kurtosis statistics for all survey measures and adolescent self-reports of arousal within social interactions. In Table 2, we report bivariate correlations among all continuous measures used in the study. All measures displayed acceptable levels of internal consistency. Further, with one exception, all measures displayed acceptable levels of skewness and kurtosis (i.e., skewness/kurtosis in range of +2.0). As the one exception, both adolescent and parent reports on the BDI-II displayed extreme levels of skewness and/or kurtosis. To address this concern, and consistent with prior work (e.g., De Los Reyes et al. 2012; Deros et al. 2018; Rausch et al. 2017), we applied a square root transformation to both reports. This transformation reduced skewness and kurtosis to acceptable levels; thus, below we report all findings that incorporate the BDI-II based on the square-root transformed scores.

Individual Differences in Socio-Evaluative Fears and Cross-Informant Correspondence

In Table 3, we report descriptive statistics of the frequencies and percentages of adolescents in the sample in terms of individual differences in socio-evaluative fears, as well as the means and standard deviations of the continuous scores used to compose the individual differences groups. For the BFNE and FPES, both adolescent and parent reports differed among the groups, all Fs > 80; all ps < 0.001. In line with our study hypotheses, the High BFNE/High FPES groups for both adolescent and parent reports significantly differed in levels of fears on these two measures. Specifically, when compared against the two groups that displayed relatively low BFNE scores (i.e., Low BFNE/Low FPES, Low BFNE/High FPES), the High BFNE/High FPES groups for both adolescent and parent reports each displayed significantly greater BFNE scores, all ps < 0.001. Similarly, when compared against the two groups that displayed relatively low FPES scores (i.e., Low BFNE/Low FPES, High BFNE/Low FPES), the High BFNE/High FPES groups for both adolescent and parent reports each displayed significantly greater FPES scores, all ps < 0.001. Stated another way, the discrete groups composed to test hypotheses regarding patterns of socio-evaluative fears accurately reflected the underlying continuous data from which we created the groups.

Both parent and adolescent reports revealed similar frequencies for the following groups: Low BFNE/Low FPES, High BFNE/Low FPES, Low BFNE/High FPES, and High BFNE/High FPES. Yet, consistent with prior work on assessments of socio-evaluative fears and mental health generally (De Los Reyes et al. 2015b; Lipton et al. 2014), we observed low between-informant correspondence in frequencies of these groups of socio-evaluative fears, χ^2 (9) = 24.63, Phi = 0.44, Cramer's $V = 0.25$, $p < 0.01$.

Table 3 Means (Standard Deviations) of continuous scores for the discrete socio-evaluative fears groups

Groups Based on Adolescent Self-Report				
Survey (Informant)	Low BFNE/FPES ($n = 84$)	High BFNE/Low FPES ($n = 11$)	Low BFNE/High FPES ($n = 10$)	High BFNE/FPES ($n = 22$)
BFNE (Adolescent)	29.93 (5.35)	45.63 (3.61)	33.10 (2.96)	48.45 (5.50)
FPES (Adolescent)	17.34 (8.83)	24.09 (11.37)	43.60 (5.44)	47.54 (8.53)
Groups Based on Parent Report				
Survey (Informant)	Low BFNE/FPES ($n = 80$)	High BFNE/Low FPES ($n = 15$)	Low BFNE/High FPES ($n = 12$)	High BFNE/FPES ($n = 20$)
BFNE (Parent)	29.32 (5.52)	45.73 (3.82)	32.91 (6.15)	49.05 (6.15)
FPES (Parent)	14.60 (9.20)	24.66 (8.14)	42.83 (6.19)	46.45 (9.28)

For each group, "High" = top 25% as a cut-off; "Low" = below top 25% as a cut-off

BFNE Brief Fear of Negative Evaluation Scale, *FPES* Fear of Positive Evaluation Scale

Psychosocial Functioning

In Table 4, we report MANOVAs testing links between socio-evaluative fears and domains of psychosocial functioning. For groups based on adolescent reports, we observed a significant omnibus effect and significant univariate effects for all domains of psychosocial functioning. In terms of post-hoc contrasts, High BFNE/High FPES adolescents displayed elevated self-reported social anxiety, relative to all other groups. High BFNE/High FPES adolescents also displayed elevated self-reported safety behaviors, depressive symptoms, and psychosocial impairments, relative to adolescents in the Low BFNE/Low FPES and High BFNE/Low FPES groups, but not adolescents in the Low BFNE/High FPES group. High BFNE/High FPES adolescents also displayed elevated peer confederate-reported social anxiety, relative to adolescents in the Low BFNE/Low FPES and Low BFNE/High FPES groups, but not adolescents in the High BFNE/Low FPES group.

For groups based on parent reports, we observed a significant omnibus effect and significant univariate effects for all domains of psychosocial functioning except peer confederate reports of adolescent social anxiety. Post-hoc contrasts indicated that High BFNE/High FPES adolescents displayed elevated parent-reported social anxiety, safety behaviors, depressive symptoms, and psychosocial impairments, relative to all other groups.

State Arousal within Social Interactions

In Table 5, we report tests of the links between adolescent-classified socio-evaluative fears groups and adolescents' state arousal within interactions with unfamiliar peers. For adolescent-classified groups, we observed a significant effect of Time and Socio-Evaluative Fears Group, indicating that all groups tended to increase in arousal from baseline-to-task, and adolescents in the High BFNE/High FPES tended to display the greatest mean levels of arousal, relative to the other groups. Follow-up univariate contrasts revealed that adolescents in the High BFNE/High FPES group displayed the highest levels of state arousal during the social interaction tasks, relative to all other groups. We observed a non-significant Time x Socio-Evaluative Fear Group interaction.

For parent-classified groups, we only observed a significant main effect of Time (Type III Wald $\chi^2 = 94.79$; $p < 0.001$). This effect indicated that all groups tended to increase in arousal from baseline-to-task. We observed a non-significant effect of Socio-Evaluative Fears Group (Type III Wald $\chi^2 = 3.87$; $p = 0.27$), and a non-significant Time × Socio-Evaluative Fears Group interaction effect (Type III Wald $\chi^2 = 0.17$; $p = 0.98$).

Discussion

In this study, we extended the literature on understanding individual differences in socio-evaluative fears. Using a mixed clinic/community sample of 14–15-year-old adolescents and their parents, we had four findings. First, we replicated the observation by Lipton et al. (2016) of individual differences in socio-evaluative fears and extended that observation from an undergraduate sample to an adolescent sample. Specifically, both adolescent reports and parent reports of socio-evaluative fears could be classified into four groups: (a) low on both FNE and FPE, (b) high on FNE and low on FPE, (c) low on FNE and high on FPE, and (d) high on both FNE and FPE. Whereas roughly 16–17% of adolescents fell into the high/high group, 8–12% of adolescents fell into the low/high or high/low groups. Second, although both adolescent and parent reports revealed these socio-evaluative fears groups, the allocation

Table 4 Socio-evaluative fears groups and means on measures of psychosocial functioning

Socio-Evaluative Fears Groups Based on Adolescent Self-Report							
Socio-Evaluative Fears Group	*N*	SPAIC (A)	SAFE (A)	BDI-II (A)	WSASY (A)	SIAS (C)	Omnibus Effects
Low BFNE/FPES (1)	84	12.53 (7.22)	57.72 (14.75)	2.87 (1.23)	8.04 (6.36)	33.44 (16.33)	$F(5,119) = 28.18^{***}$; $\eta^2 = 0.54$
High BFNE/Low FPES (2)	10	20.57 (10.27)	69.40 (12.67)	3.60 (1.08)	7.90 (7.03)	38.30 (16.22)	
Low BFNE/High FPES (3)	10	22.31 (5.51)	81.50 (12.80)	3.81 (1.12)	16.20 (11.56)	31.50 (20.16)	
High BFNE/FPES (4)	21	32.50 (8.32)	92.00 (21.06)	4.78 (1.59)	16.71 (7.43)	48.33 (16.68)	
Univariate Effects		$\boldsymbol{F = 41.36^{***}}$	$\boldsymbol{F = 30.33^{***}}$	$\boldsymbol{F = 13.19^{***}}$	$\boldsymbol{F = 11.16^{***}}$	$\boldsymbol{F = 4.78^{**}}$	
Post-Hoc Contrasts		**4 > 1, 2, 3**	**4 > 1, 2**	**4 > 1, 2**	**4 > 1, 2**	**4 > 1, 3**	
Socio-Evaluative Fears Groups Based on Parent Report							
Socio-Evaluative Fears Group	*N*	SPAIC (P)	SAFE (P)	BDI-II (P)	WSASY (P)	SIAS (C)	Omnibus Effects
Low BFNE/FPES (1)	79	12.14 (6.67)	58.06 (11.89)	1.54 (1.28)	6.17 (5.63)	35.34 (17.04)	$F(5,119) = 38.72^{***}$; $\eta^2 = 0.62$
High BFNE/Low FPES (2)	15	23.22 (9.30)	66.93 (17.02)	2.63 (1.86)	12.13 (6.88)	36.93 (18.45)	
Low BFNE/High FPES (3)	12	23.30 (8.08)	74.50 (15.40)	2.21 (0.89)	7.75 (5.49)	32.66 (21.13)	
High BFNE/FPES (4)	19	33.62 (7.81)	88.52 (14.74)	3.94 (1.32)	18.94 (9.04)	41.26 (16.15)	
Univariate Effects		$\boldsymbol{F = 50.16^{***}}$	$\boldsymbol{F = 28.83^{***}}$	$\boldsymbol{F = 17.30^{***}}$	$\boldsymbol{F = 21.81^{***}}$	$\boldsymbol{F = 0.76}$	
Post-Hoc Contrasts		**4 > 1, 2, 3**	**4 > 1, 2, 3**	**4 > 1, 2, 3**	**4 > 1, 2, 3**	**ns**	

All omnibus tests based on Roy's Largest Root statistic. Post-hoc contrasts (Dunnett's *T*; contrast group = High BFNE/FPES) deemed significant if $p < 0.05$, one-tailed (i.e., contrast group > all other groups). Due to 2 peer confederates not providing SIAS reports, analyses involving the SIAS are based on data from 125 participants

A adolescent, *P* parent, *C* confederate, *BFNE* Brief Fear of Negative Evaluation Scale, *FPES* Fear of Positive Evaluation Scale, *SAFE* Subtle Avoidance Frequency Examination, *SPAIC* Social Phobia and Anxiety Inventory for Children, *SIAS* Social Interaction Anxiety Scale, *BDI-II* Beck Depression Inventory-II, *WSASY* Work and Social Adjustment Scale for Youth

$^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$

of specific adolescents to these groups yielded relatively low correspondence between adolescent and parent reports. Third, adolescents classified as high on both FNE and FPE tended to display poorer psychosocial functioning relative to adolescents displaying other patterns of socio-evaluative fears; although only adolescent-classified groups differed on peer confederate reports of adolescent social anxiety. Fourth, based on adolescent-classified (but not parent-classified) groups, adolescents classified as high on both FNE and FPE displayed greater self-reported arousal during social interactions with unfamiliar peers, relative to all other groups. Overall, classifying adolescents in terms of their individual differences in socio-evaluative fears allowed for meaningful prediction of clinically relevant psychosocial domains linked to social anxiety.

A key aspect regarding our findings warrants comment. We observed discrepant findings across informant types, with adolescent-classified groups showing relatively more robust effects when predicting adolescents' reactions to social interactions with unfamiliar peers, compared to parent-classified groups. Our study design precluded our ability to probe the mechanisms underlying these discrepant findings by informant type. However, these discrepancies are in line with prior work that demonstrates low correspondence across multi-informant assessments of adolescents' socio-evaluative fears and internalizing concerns generally (e.g., Achenbach 2017; De Los Reyes et al. 2015a; Karp et al. 2018). The behavioral tasks used to assess adolescents' state arousal were designed to examine adolescents' reactions to social interactions with unfamiliar peers – thus, it may be that our tasks primarily assess behaviors displayed by adolescents outside of the home setting. If true, this would increase the likelihood that parents would be less attuned to, or have relatively low knowledge of, how adolescents react to social interactions in non-home contexts, and thus reasonably decrease the ability of parents' reports to predict behaviors displayed within our social interaction tasks (see also De Los Reyes and Ohannessian 2016; De Los Reyes et al. 2013). These ideas warrant further inquiry.

Implications for Future Research

Our findings have important implications for future research. First, prior theoretical work with adults posits that FNE and FPE reflect distinct forms of social experience (i.e., positive vs. negative), and that a consequence of this is that variations in social experience produce distinct fear and avoidance patterns among those who experience social anxiety (Weeks and Howell 2012). Recent work with emerging adults represents a logical extension of this idea; that is, individuals vary in whether they experience concerns with FNE, FPE, both, or neither (Lipton et al. 2016). Our findings suggest that these individual differences also

Table 5 Generalized estimating equation (GEE) predicting adolescents' self-reported state arousal during social interactions as a function of time, adolescent socio-evaluative fears group (based on Adolescent Self-Report), and their interactions

Main GEE Model	
Factor	Type III Wald χ^2
Time	79.81***
Socio-Evaluative Fears Group	70.75***
Time × Socio-Evaluative Fears Group	5.33

Follow-Up Factor Contrasts for Socio-Evaluative Fears Group Main Effect, SAM Task Score			
Contrast	M^1 (SE)	M^2 (SE)	Mean Difference (SE)
[1]High BFNE/FPES SAM Task Score vs. [2]Low BFNE/High FPES SAM Task Score	3.27 (0.15)	2.60 (0.10)	0.67 (0.18)***
[1]High BFNE/FPES SAM Task Score vs. [2]High BFNE/Low FPES SAM Task Score	3.27 (0.15)	2.17 (0.21)	1.10 (0.26)***
[1]High BFNE/FPES SAM Task Score vs. [2]Low BFNE/Low FPES SAM Task Score	3.27 (0.15)	2.08 (0.07)	1.19 (0.16)***

Factor contrasts based on comparisons of factors in descending order. The time factor (coded in ascending order) was coded baseline and then tasks. The socio-evaluative fears group factor (coded in ascending order) was coded 0 = low BFNE/FPES; 1 = high BFNE/low FPES; 2 = low BFNE/high FPES; and 3 = high BFNE/FPES; All interaction terms calculated based on factors coded with the lowest possible value being "0"

BFN Brief Fear of Negative Evaluation Scale, *FPES* Fear of Positive Evaluation Scale, *SAM* Self-Assessment Manikin, *M* mean, *SE* standard error

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

manifest in adolescent displays of FNE and FPE. As with emerging adults, among adolescents who display at least some elevations in FNE or FPE, some appear to experience elevated concerns with both FNE and FPE, whereas others experience elevated concerns with FPE but relatively low concerns with FNE, and vice versa. As with emerging adults, adolescents classified in groups based on these variations in socio-evaluative fears differed in terms of levels of psychosocial functioning, and we observed these differences on survey reports completed by adolescents and parents. We also extended findings with emerging adults in that adolescents' classifications in socio-evaluative fear groups predicted adolescents' reactions to social interactions, both in terms of adolescent state arousal within these interactions and the social anxiety reports completed by the peer confederates who interacted with these adolescents. Yet, many questions remain: Are these socio-evaluative fears groups stable over time? What is the etiology of these groups? That is, among those who experience both FNE and FPE, do displays of FNE temporally precede FPE, or vice versa? Do these fears emerge concurrently? These questions merit further study.

Second, our findings inform future treatment research. Specifically, an important element of cognitive models of social anxiety and the treatments derived from these models is that they place an exclusive emphasis on FNE (e.g., Clark and Wells 1995). In fact, the exposure-based techniques implemented in current social anxiety treatments primarily emphasize anxiety-provoking social situations characterized by negative and/or neutral performance evaluations (Rapee and Heimberg 1997). Our findings beg the question: Do adolescents who differ in their relative levels of FNE and FPE also differ in their response to current evidence-based treatments for social anxiety? For instance, if current treatments emphasize reducing FNE, do adolescents who experience high levels of FPE and low levels of FNE evidence poor responses to treatment, relative to adolescents with primary concerns with FNE? Such findings might partially explain why some individuals with SAD do not improve with exposure-based treatments. Further, might one enhance treatment effects for SAD by including an evidence-based assessment of both FNE and FPE prior to treatment? Findings from these assessments might be integrated into clinical care such that a clinician executes different exposure-based techniques and situations, based on the pattern of socio-evaluative fears for the individual client. These questions merit further study.

Limitations

Three limitations of this study warrant comment. First, the clinical screening design of our study did not allow us to examine the socio-evaluative fears groups and their links to relevant clinical indices beyond adolescents' self-reported state arousal within social interactions and clinical reports of

adolescent psychosocial functioning. We encourage researchers seeking to replicate and extend our findings to examine these socio-evaluative fears groups in the context of treatment planning, monitoring, and outcome. We also encourage future research on whether socio-evaluative fear groups relate to modalities for assessing reactions to social interactions beyond self-reported arousal (e.g., observed anxiety and direct physiological readings of arousal). Second, within our behavioral tasks, the peer confederates with whom adolescents interacted were trained to pose as same-age unfamiliar peers—however, by design, these peer confederates were not same-age peers. Future research should examine whether our findings generalize to social interactions with same-age peers. Third, we took a multi-informant approach that involved collecting reports from observers of adolescent psychosocial functioning. Yet, we did not collect reports from adult authority figures beyond parents (e.g., teachers). We encourage future research on the links between individual differences in adolescents' socio-evaluative fears and psychosocial functioning in the school context.

As with emerging adults (Lipton et al. 2016), adolescents display individual differences in levels of FNE and FPE. Our findings support the idea that socio-evaluative fears displayed by socially anxious individuals can vary along distinct valences of social experience (Weeks and Howell 2012). Adolescents who vary in their displays of FNE and FPE also differ in levels of psychosocial functioning, as well as state-based reactions to interactions with unfamiliar peers. Adolescents who experience relatively high levels of both FNE and FPE appear to display poorer levels of psychosocial functioning, relative to adolescents who display other patterns of socio-evaluative fears. Our findings have important implications for both basic and applied research. We encourage future research on the etiology and maintenance of individual differences in socio-evaluative fears, as well as investigations on whether individual differences in socio-evaluative fears can serve as predictors of treatment response.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the University of Maryland at College Park's Institutional Review Board and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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