



Social evaluation fear in childhood and adolescence: Normative developmental course and continuity of individual differences

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Using cross-sectional ($N = 910$) and longitudinal ($N = 261$) data from Gullone and King's (1993, 1997) studies of normal fear in children and adolescents aged 7 to 18 years, the normative developmental pattern of social evaluation fear and the continuity of individual differences were investigated. Participants' responses were analysed according to two subscales (Social Evaluation and Punishment) within the Failure and Criticism scale of the Fear Survey Schedule. The findings indicated that: (a) social evaluation fear increased between childhood and adolescence, while punishment fear decreased, (b) individual differences in social evaluation fear displayed only modest continuity over the 3-year follow-up period, (c) continuity of social evaluation fear increased with increased age and (d) discontinuity was particularly salient for relatively high fear levels.

Social anxiety is common in the general population and is not restricted to individuals with a social anxiety disorder (Essau, Conradt, & Peterman, 1999). A key feature of social anxiety, and social anxiety disorder, is the fear of potentially negative evaluation by others. It has been proposed that fear of negative social evaluation increases during adolescence and that individual differences in social fearfulness are relatively stable over time. However, little research has been conducted in which these proposals have been directly tested and the results of the research are inconsistent. The aims of this study were to investigate the normative developmental pattern of social evaluation fear and the continuity of individual differences.

Normative developmental pattern

Several authors have suggested that cognitive and social development during adolescence contribute to heightened self-consciousness and hence to increased fear

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of negative social evaluation (Alfano, Beidel, & Turner, 2002; Velting & Albano, 2001; Westenberg, Siebelink, & Treffers, 2001). Gullone and King (1997) reasoned that, as a result of the increase in abstract reasoning, '... adolescents are more likely to evaluate themselves against ideal standards and to believe that others are also evaluating them the same way' (p. 107). Similarly, Ollendick and Hirshfeld-Becker (2002) noted that the transition into adolescence is characterized by adolescents' increased attention to the perceptions of peers, friends and adults, and an increased concern with how one 'comes across' in social interactions. According to these authors, transient episodes of social anxiety are thus not uncommon during this developmental period and are 'part and parcel of normal development' (p. 44).

Research on the normative developmental course of social evaluation fear has relied mostly on the Fear Survey Schedule for Children - Revised (FSSC-R; Ollendick, 1983) and the FSSC-II (a revision of the FSSC-R; Gullone & King, 1992). Both of these schedules have a 'Fear of Failure and Criticism' subscale which contains items concerning a variety of social fears (e.g. Looking foolish, Failing a test, Being sent to the principal/headmaster). The validity of this subscale as a measure of social fearfulness has been supported by various studies demonstrating substantial correlations with assessments of social anxiety (e.g. Muris, Merckelbach, Ollendick, King, & Bogie, 2002). However, contrary to the expectation that social fearfulness increases during adolescence, cross-sectional and longitudinal findings have failed to indicate such an increase on the 'Fear of Failure and Criticism' subscale of normative fear measures. Indeed, some studies revealed a decrease in these scores with increased age. For example, Gullone and King (1993, 1997) did not find the expected increase of scores on the 'Fear of Failure and Criticism' subscale in a sample of children and adolescents aged 7 to 18 years; the cross-sectional study displayed no effect of age and the 3-year follow-up study displayed a decrease with increasing age. (For a complete overview see Westenberg, Drewes, Goedhart, Siebelink, & Treffers, 2004.)

An explanation for these counter-intuitive findings may relate to the assessment of social fearfulness. Westenberg *et al.* (2004) argued that the various items of the Failure and Criticism subscale pertain to different types of social fears that may follow different age patterns. In their cross-sectional study of 882 non-referred Dutch children and adolescents (aged 8 to 18 years) two subsets of the 23 items from the FSSC-R Failure and Criticism scale followed opposite age patterns. A subset of items pertaining to the fear of negative evaluation (e.g. Being criticized by others; Getting bad marks) displayed the expected increase with age, whereby respondents in the mid-adolescent developmental period scored *higher* on this subset relative to those in the late childhood period. A second subset of items referring specifically to fear of punishment (e.g. Getting punished by my mother; Being sent to the principal/headmaster) yielded the opposite age trend, whereby respondents in the mid-adolescent developmental period scored *lower* on this subset relative to those in the late childhood period. Importantly, significant age differences were not found when examining the Failure and Criticism scale as a whole. Thus, it appears that the negative relationship between age and punishment fear may be cancelling out the positive relationship between age and fear of negative social evaluation.

Another explanation for the frequently reported absence of an age-related increase in fear of negative social evaluation might reside in the age-related decrease in general fearfulness (see Gullone, 2000). The developmental course of social fears should be viewed in light of this overall decrease. Thus, whilst, on the whole, normative fear decreases, fear of negative social evaluation might increase in *relative* salience during

adolescence. Along these lines, Weems and Costa (2005) argued that '... controlling for any general trends in anxiety symptoms, specific anxiety symptoms will be predominant at different ages' (p. 659). They examined developmental differences in the expression of childhood fears and anxiety symptoms in a sample of 145 youths (ages 6–17 years). Fears were assessed with the FSSC-R and anxiety symptoms were assessed with the Revised Child Anxiety and Depression Scales (RCADS). Relative to the consistent decrease of the total fear/anxiety score, fear of failure and criticism and social anxiety symptoms steadily increased during the development to become the predominant fear in the mid-adolescent age group (ages 14–17 years).

In sum, with the exception of the Westenberg *et al.* (2004) and Weems and Costa (2005) cross-sectional studies, research on normative fear development has not revealed the expected increase of social evaluation fear during adolescence. Indeed, this increase has not yet been observed in the findings of longitudinal research (Dong, Xia, Lin, Yang, & Ollendick, 1995; Gullone & King, 1997).

Continuity of individual differences

Studies of normal developmental patterns often disregard the continuity, or discontinuity, of individual differences in social evaluation fear. As with body growth, where average group increases are accompanied by high continuity of individual differences, individual differences in social evaluation fear may display considerable continuity. Indirect support for the continuity of individual differences is derived from three areas of investigation. First, some studies have indicated a genetic basis for individual differences in the fear of negative evaluation and social anxiety (e.g. Stein, Jang, & Livesley, 2002). Second, there is some evidence for a connection between social fearfulness during adolescence and behavioural inhibition (BI) during the second year of life (Schwartz, Snidman, & Kagan, 1999). Third, the assumption of continuity is supported by the relatively chronic course of social anxiety disorder (Wittchen & Fehm, 2003).

There is little *direct* empirical evidence, however, to support the idea of continuity of individual differences in social evaluation fears over childhood and adolescence. Longitudinal studies of social fearfulness are relatively rare, and the few that have been conducted included a broad index of social fear, or more general fear constructs, rather than specific measures of social evaluation fear. Three year follow-up studies have been conducted in which the Failure and Criticism subscale of the FSSC-R or the FSSC-II were used. Dong *et al.* (1995) reported an across-time correlation of .51 for scores on the Failure and Criticism subscale over a 1-year period, based on the reports of 492 Chinese children and adolescents aged 7 to 17 years. Spence and McCathie (1993) reported an across-time correlation of .39 over a 2-year period amongst 94 children aged 9 to 10 years. Gullone and King (1997) conducted across-time regression analyses and reported a *Beta*-weight of 0.28 over a 3-year period amongst 273 Australian children and adolescents aged 7 to 18 years. On the basis of these three studies, it appears that self-reported concerns about failure and criticism are somewhat (but not highly) predictive of scores at 1- to 3-year follow-up. A fourth follow-up study employing a more specific index of social fearfulness – the Social Anxiety Scale – reported a mild level of continuity across a 6-year interval (Prinstein & La Greca, 2002). In this study of 246 children (grade 4 to 6), an across-time correlation of $r = .33$ was observed, which is in line with the modest continuity found using the Failure and Criticism fear scale.

In sum, while there is some support for the modest continuity of broad indexes of social fear during childhood and adolescence, only one longitudinal study has been conducted in which a more specific measure of social anxiety has been used. Further, no studies have specifically reported on the continuity of relatively high social fear scores. Hence, it is unknown whether high social fear scores are more stable than low or average scores. Moreover, with the exception of Dong *et al.* (1995), no researchers have investigated the potential effect of age on the continuity of social fearfulness over time. It is unclear whether the continuity of individual differences increases with increased age.

Aims of the present study

The present study comprised two broad aims. Firstly, on the basis of a reanalysis of data from the Gullone and King (1993, 1997) cross-sectional and longitudinal studies, we sought to determine whether an age-related increase in social fear scores would emerge when examining the social evaluation fear items in the Failure and Criticism scale apart from the punishment items of the same scale. In line with Westenberg *et al.*'s (2004) findings, we predicted that adolescents would report higher levels of social evaluation fears when compared to children, and that the latter group would report higher levels of punishment fears. In line with Weems and Costa's (2005) findings, we expected that controlling for the consistent decrease of general fear would enhance the age-related increase of social evaluation fear.

The second aim was to investigate the continuity in social evaluation and punishment fears over time through a reanalysis of data from the Gullone and King (1997) longitudinal study. Based on the afore-mentioned research we predicted only moderate continuity over a 3-year period. However, given the chronicity of social anxiety disorder, a relatively high level of continuity was expected among those individuals who reported higher levels of social fearfulness. Furthermore, we sought to determine whether the continuity of individual differences in social fearfulness increases with increasing age. Finally, test-retest stability of social fear scores was investigated for a possible effect of measurement unreliability on the continuity of individual differences over time.

Method

Participants

The Gullone and King (1993) cross-sectional sample involved 918 Australian children and adolescents aged between 7 and 18 years (see Gullone & King, 1992, for details regarding the sample and data collection). In the present study, eight cases were deleted due to missing data, resulting in a final sample of 910 participants (456 boys and 454 girls). The Gullone and King (1997) longitudinal sample was based on the reassessment, 3 years later, of 273 of the initial 918 children and adolescents who were still attending the same school during the follow-up. The group of participants in the follow-up did not differ from the other group in terms of gender or fear level (see Gullone & King, 1997). In the present study, 12 out of 273 were excluded due to missing data, resulting in a sample of 261 participants (133 girls and 128 boys) aged between 7 and 16 years at Time 1.

In both studies the children were divided into four age groupings: middle childhood (ages 7 to 8), late childhood (ages 9 to 12), early adolescence (ages 13 to 16) and middle adolescence (ages 17 to 18). The age groupings were derived to allow for approximately

equal numbers in each group, using the age distribution of the longitudinal sample as the reference point. The fourth group (i.e. ages 17 to 18) was not represented in the longitudinal sample because young people of this age had already left school before the follow-up took place.

Test-retest data

Of relevance to the continuity analyses, the present data also involved the administration of the FSSC-II on two occasions, one week apart, to 511 out of 918 participants. Of those 511 participants, 431 were aged 7 to 16 years at Time 1.

Measure

The fear survey schedule for Children-II (FSSC-II)

The FSSC-II is a 75-item instrument in which each item represents a different fear stimulus. Respondents are required to rate each item on a 3-point scale: 1 = Not scared, 2 = Scared and 3 = Very scared. The general fear score - an average of the 75-item scores - is used as an index of general fear level. The FSSC-II consists of five factors, and the Failure and Criticism factor was the focus for the present analyses. Based on the findings of the Westenberg *et al.* (2004) study two subscales were derived from the Failure and Criticism scale: (a) a 10-item subscale concerning fear of negative social and academic evaluation referred to as the social evaluation subscale (e.g. Having to talk in front of my class, Looking foolish, Making mistakes) and (b) a 5-item subscale concerning fear of punishment referred to as the punishment subscale (e.g. Getting punished by my mum, Being sent to the principal/headmaster). The item list for both subscales can be obtained from the first author upon request. In the present study when using the cross-sectional data, Cronbach alpha analyses yielded coefficients of: .96 for the 75-item general fear scale; .84 for the 15-item Failure and Criticism scale; .78 for the 10-item social evaluation subscale and .72 for the 5-item punishment subscale.

Average subscale scores were used to examine age patterns for *absolute* fear levels. Following Weems and Costa's (2005) plea to examine age patterns for *relative* fear levels, difference scores were computed by subtracting the general fear score from each subscale score. For example, the general fear score (average score across all 75 items) was subtracted from the social evaluation fear score (average score across the 10 items of that subscale) to obtain a measure of relative fearfulness of negative social evaluation. Negative difference scores indicate that the fear of negative social evaluation is *lower* than the general fear level and the positive difference scores indicate that the fear of negative social evaluation is *higher* than the general fear level.

Results

Preliminary analyses

Because consistent gender differences are reported in the fear literature, with girls scoring higher than boys (see Gullone, 2000), gender was initially included in each statistical analysis to examine the possibility of interaction effects with gender. All analyses showed the expected main effect for gender, but significant interaction effects between gender and age group (cross-sectional analyses) or time (longitudinal analyses) were not found for the Failure and Criticism scale or its two subscales. Hence, the statistical analyses are reported without any further reference to gender. The assumption that general fear level decreases throughout late childhood and adolescence

was confirmed. In the cross-sectional data, a one-way ANOVA showed a significant effect for age group for the general fear score ($F_{(3, 906)} = 20.34, p < .001, \eta^2 = .06$). *Post hoc* tests showed a significant decrease of general fear level from middle childhood to mid-adolescence (with the largest decrease between early to mid-adolescence, see Table 1). A paired *t* test also showed a significant decrease of general fear level over time in the longitudinal data (T1: $M = 1.82, SD = 0.31$; T2: $M = 1.70, SD = 0.31$; $t(260) = 6.24, p < .01$). Given our directional hypotheses one-tailed *t* tests were conducted, and given the sample sizes an alpha of .01 was used for all analyses.

Table 1. Effect of age group on absolute fear scores (Cross-sectional analyses)

Age groups	Means (Standard deviations)				Post hoc tests ¹ Scheffé-procedure
	(1) 7–8 (<i>N</i> = 161)	(2) 9–12 (<i>N</i> = 325)	(3) 13–16 (<i>N</i> = 283)	(4) 17–18 (<i>N</i> = 141)	
General fear ^a	1.87 (0.34)	1.80 (0.32)	1.73 (0.33)	1.60 (0.30)	1–3, 1–4, 2–4, 3–4
Failure and criticism ^a	1.42 (0.36)	1.51 (0.34)	1.49 (0.35)	1.44 (0.32)	–
Subscales ^b					
Social evaluation	1.31 (0.29)	1.46 (0.35)	1.50 (0.36)	1.49 (0.36)	1–2; 1–3; 1–4
Punishment	1.65 (0.45)	1.62 (0.44)	1.46 (0.42)	1.33 (0.38)	1–3; 1–4; 2–3; 2–4; 3–4

^a Scale from the Fear Survey Schedule for Children – II (FSSC-II; Gullone & King, 1992).

^b Subscales of the Failure and Criticism scale according to Westenberg et al. (2004; see Method).

¹ Significant differences between age groups are reported (e.g. '1–2' means that age group 1 differed significantly from age group 2).

Difference scores were used to study the developmental pattern of social fear relative to the consistent decrease of general fear. Given that difference scores might be less reliable than the original scores (Van der Kamp & Bijleveld, 1998), we used the test-retest data to examine the reliability of the relative fear scores. These results indicate that the reliability of the difference scores was not substantially different from the reliability of the original fear scores. For example, the test-retest stability of the difference scores on the social evaluation subscale was .75, while the test-retest stability for the absolute scores on the same scale was .77.

Normative developmental pattern

Cross-sectional data

Consistent with Gullone and King's (1993) analysis, the *absolute* level of the fear of Failure and Criticism was unrelated to age; the ANOVA (with age group as the independent variable) showed no statistically significant effects, $F_{(3, 906)} = 3.39, p > .01$ (for the age data, see Table 1). A two-way mixed ANOVA was conducted to test whether the two subscales showed a significantly different pattern over the age groups. The two subscales were entered as within-subjects variables and the four age groups as between-subjects variables. A significant interaction effect between the age groups and the two separate subscales was found [$F_{(3, 906)} = 70.08, p < .001, \eta^2 = .19$], confirming the hypothesis that the two subscales display different developmental patterns. Follow-up ANOVA's for both subscales yielded significant results for social evaluation [$F_{(3, 906)} = 11.83, p < .001, \eta^2 = .04$] and for punishment [$F_{(3, 906)} = 22.39, p < .001, \eta^2 = .07$]. As predicted, *post hoc* tests of group differences indicated that fears of

punishment became significantly less salient between childhood and adolescence, whereas fears of social evaluation became significantly more salient during this transition (see Table 1).

As was expected, the age-related increase for fears of social evaluation was enhanced if *relative* fear scores were used. A one-way ANOVA yielded a much stronger effect for age group using relative scores on the social evaluation scale [$F_{(3,906)} = 88.85, p < .001, \eta^2 = .23$] when compared to absolute scores [$F_{(3,906)} = 11.83, \eta^2 = .04$]. *Post hoc* tests indicated that relative fear scores of social evaluation strongly increased with age. In contrast, a one-way ANOVA indicated that the age effect was weaker for relative punishment scores [$F_{(3,906)} = 6.06, p < .001, \eta^2 = .02$] than for absolute punishment scores [$F_{(3,906)} = 22.39, \eta^2 = .07$]. *Post hoc* tests indicated that the relative fear of punishment decreased, indicating that this decrease was even more marked than the decrease of general fear.

Longitudinal data

Consistent with Gullone and King's (1993) analysis, *absolute* scores on the Failure and Criticism scale significantly decreased between the first assessment ($M = 1.47, SD = 0.32$) and the follow-up assessment 3 years later ($M = 1.40, SD = 0.33$, paired $t(260) = 3.17, p < .01$). A 2 (subscales) \times 2 (time) repeated measures ANOVA was carried out to test whether the time-related changes associated with the two subscales were statistically different. As was expected, a significant interaction effect was found (Wilks's $\Lambda = .84, F_{(1,260)} = 48.15, p < .001, \eta^2 = .16$), indicating that the time effect was significantly different for the two subscales. Paired t tests indicated the expected decrease for fears of punishment (T1: $M = 1.60, SD = 0.42$; T2: $M = 1.40, SD = 0.39$; $t(260) = 6.41, p < .01$), but no change was found for social evaluation fears (T1: $M = 1.41, SD = 0.33$; T2: $M = 1.40, SD = 0.36$; $t(260) = 0.32, ns$).

The expected increase of social evaluation fears over time was revealed by a significant increase of *relative* fear scores: paired t tests revealed an increase for the social evaluation subscale (T1: $M = -0.41, SD = 0.28$; T2: $M = -0.30, SD = 0.29$; $t(260) = -6.04, p < .01$) as well as for the Failure and Criticism scale (T1: $M = -0.35, SD = 0.24$; T2: $M = -0.30, SD = 0.25$; $t(260) = -2.94, p < .01$). These findings show that social fearfulness became more salient over time in relation to general fear. In contrast, punishment fears became less salient over time relative to general fear (T1: $M = -0.22, SD = 0.32$; T2: $M = -0.30, SD = 0.31$; $t(260) = 3.36, p < .01$). A 2 (subscale) \times 2 (time) \times 3 (age group) repeated measures ANOVA was used to test whether this pattern was the same in each age group. No three-way interaction effect was found (Wilks's $\Lambda = .997, F_{(2,258)} = .39, ns$), social evaluation fears increased over time in all age groups, whereas punishment fears decreased for all three age groups (see Figure 1).

The graphs in Figure 1 also show that in relation to general fear: punishment fears are stronger than social evaluations fears in the youngest age group (at Time 1 *and* at Time 2), social evaluation fears become slightly stronger than punishment fears in the middle age group (at Time 2) and social evaluation fears become the predominant fears in the oldest age group (at Time 2). This pattern is consistent with the outcome of the cross-sectional analyses (see Table 1); during childhood fears of punishment are significantly stronger than fears of social evaluation [paired t tests: $t(160) = 11.32, p < .01$ for age 7-8, and $t(324) = 8.48, p < .01$ for age 9-12], whereas during adolescence fears of

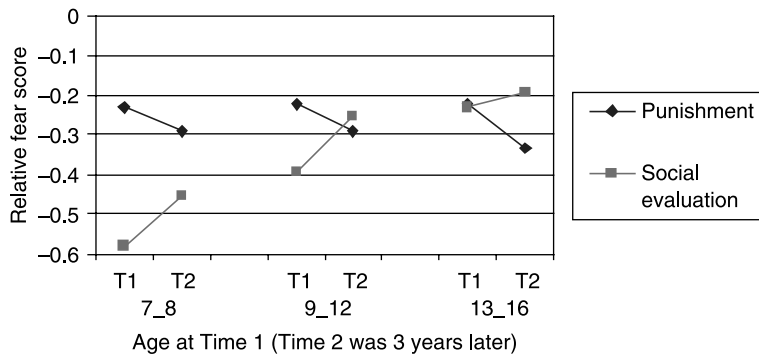


Figure 1. Longitudinal analysis of fear of social evaluation and fear of punishment (Relative fear level).

social evaluation are equal to or significantly stronger than punishment fears [paired t tests: $t(282) = -2.22$, ns for age 13–16 and $t(140) = -5.45$, $p < .01$ for age 17–18].

Continuity of individual differences

As was expected, modest continuity of individual differences in social evaluation fear scores was observed, as indicated by across-time correlations varying from .24 for the punishment subscale to .31 for the social evaluation subscale (see Table 2). Notably, continuity of individual differences in social fear increased with increasing age: continuity was virtually absent in the youngest age group, was moderate in the middle age group and was highest in the oldest age group (i.e. $r = .09$, .33 and .53, respectively, for social evaluation). The correlations were not statistically different for boys or girls. There was little difference across the three age groups in the test–retest reliability of social fear scores (see Table 2).

The continuity of high social fear scores was studied by standardizing the fear scores within each age group and within gender (to account for the mean differences between age groups, and between males and females), and by cross-tabulating the standard scores at Time 1 and Time 2. The results were very similar for the Failure and Criticism scale and the two subscales. Given that the focus of the present study is on social evaluation fear we limit description of the analyses to the social evaluation subscale. Contrary to expectations, the results indicate very low stability for high fear scores. Out of the eight participants with social fear scores of 2 SD above the mean at Time 1, only 1 participant still scored at that level at Time 2, while the scores for seven participants were less than 1 SD above the mean at Time 2. In other words, 88% of high scoring individuals ($SD > 2$ at Time 1) had obtained average or below-average scores at Time 2 ($SD < 1$). This pattern was similar for high fear scores at Time 2. Specifically, of the 11 individuals with social fear scores of 2 SD above the mean at Time 2, 10 individuals (91%) had obtained average scores ($SD < 1$) at Time 1.

Finally, correlations were carried out without the participants who had fear scores 2 SD above the mean to determine if these individuals' data influenced the overall results. Exclusion of participants with fear scores in excess of 2 SD did not significantly affect the across-time correlations (e.g. the across-time correlation for social evaluation fear was raised from .31 to .35). This indicates that the modest continuity of individual differences in social fear scores was not due to the instability of very high fear scores.

Table 2. Continuity of individual differences in social fear across a 3-year period (when compared with Test-retest stability)

Age groups		Continuity across 3-year period				Test-retest stability			
Time 1	Time 2	N ¹	Failure & Criticism ^a	Social evaluation ^b	Punishment ^b	N ²	Failure & Criticism ^a	Social evaluation ^b	Punishment ^b
		<i>r</i> ¹				<i>r</i> ²			
7-8	10-11	94	.13	.09	.19	77	.83**	.80**	.74**
9-12	12-15	88	.32**	.33**	.27*	154	.78**	.71**	.71**
13-16	16-19	79	.48**	.53**	.27*	200	.83**	.79**	.76**
All (7-16)	All (10-19)	261	.30**	.31**	.24**	431	.81**	.77**	.74**

Note. Follow-up correlations based on standardized fear scores within gender and within each age category.

¹ All children with follow-up data.

² All children who completed a retest assessment and were aged between 7 and 16 years at Time 1.

^a Scale from the Fear Survey Schedule for Children – II (FSSC-II; Gullone & King, 1992).

^b Subscales of the Failure and Criticism scale according to Westenberg et al. (2004; see Method).

p* < .05; *p* < .01.

Discussion

The main aims of the study were to determine whether there are normative developmental differences in social fearfulness and to investigate the continuity of individual differences in social fearfulness over time. The findings support the Westenberg *et al.* (2004) claim that the absence of a consistently positive relationship between age and social fearfulness as reported in several studies (e.g. Gullone & King, 1993, 1997) is partly due to the combination of social evaluation and punishment fears in the Failure and Criticism subscale of normative fear measures. Across all analyses, social evaluation and punishment fears followed divergent developmental patterns. Furthermore, in line with the work of Weems and Costa (2005), the present findings reinforce the importance of accounting for overall decreases in general fear level when studying age trends for specific fear domains. Relative to the consistent decrease of general fear, social evaluation fear strongly increased across age and over time, whereas punishment fears moderately decreased across age and over time.

The adolescent-bound increase of fear of negative social evaluation has also been documented by early normative fear research. Early studies mostly relied on the fear list technique (e.g. 'What are the things to be afraid of?'; Derevensky, 1979), and several studies of this type have indicated an increasing concern with social evaluation. For example, Angelino, Dollins, and Mech (1956) asked 1130 participants ages 9 to 18 to 'List the fears and worries you think people of your own age group have.' Social evaluation fears were mentioned least by 9-year-olds and most by the 18-year-olds. The consistent increase in social evaluation fear indicates that this fear follows its own unique developmental pattern; other fears including the fear of punishment, follow the much more expected normal developmental fear pattern of a consistent decrease over time with increasing age.

This is the first study using longitudinal data to document an increase in social evaluation fear over time, relative to the consistent decrease of general fear level. Absolute levels of social evaluation fear, on the other hand, were not found to increase or decrease over time, based on the longitudinal data. The latter finding contrasts with the age-related increase of social evaluation fear in the cross-sectional data of the present study and of the Westenberg *et al.* (2004) study. This might be due in part to substantial individual differences in socio-cognitive maturation; age is, after all, an unreliable proxy for developmental maturity. Westenberg *et al.* have shown that individual differences in social evaluation fear are significantly related to differential maturity, more than they are to age. In addition the adolescent-bound increase might also be related to sexual maturation. Buss (1980) observed that 'children who were not especially shy before puberty suddenly become tense and anxious in social situations, because the rapid bodily changes of puberty . . . focus attention on the self and foster embarrassment and shyness' (pp. 243–244). The current report on the longitudinal data – with its smaller sample size in each age group – might be plagued more than large-scale cross-sectional studies by individual differences in the timing and pace of sexual and socio-cognitive maturation. Future longitudinal studies need to include age-independent measures of sexual and socio-cognitive maturity to determine the specific course of social evaluation fear over time.

The second aim of this study was to investigate the continuity/discontinuity of individual differences in social evaluation and punishment fears over time. In line with the findings of the earlier mentioned studies, modest continuity was observed for individual differences in social evaluation fearfulness. About 10% of the variation in fear

scores at follow-up was explained by fear scores at inception. A similar degree of continuity was observed for scores on the punishment subscale and for scores on the combined Failure and Criticism scale. The overall across-time correlation of .30 for scores on the Failure and Criticism scale and of .31 for scores on the social evaluation subscale mirror the correlation of .33 found for social anxiety as measured via the SAS (Prinstein & La Greca, 2002). The across-time correlation of .30 for scores on the Failure and Criticism scale is somewhat lower than the across-time correlations of .51 reported by Dong *et al.* (1995) and .39 reported by Spence and McCathie (1993). The degree of continuity appears inversely proportional to the number of years between assessments: the Dong *et al.* study spanned a 1-year period ($r = .51$), the Spence and McCathie study spanned a 2-year period ($r = .39$) and the present study spanned a 3-year period ($r = .30$).

This is the first longitudinal study showing that continuity of individual differences in social evaluation fears increases with increased age. The magnitude of across-time correlations increased from being negligible in the youngest age group to being moderate in the oldest age group. Importantly, the relatively low continuity of social fear in the youngest age group cannot be attributed to low reliability, because the test-retest reliability of social fear scores was similar, *and* satisfactory, in all three age groups. The age-related increasing continuity of scores on the Failure and Criticism scale contrasts with the findings of the Dong *et al.* (1995) study. They reported that the across-time correlation, across a 1-year period, was similar for varying age groups: .54 for 7–10-year-olds, .49 for 11–13 year olds and .46 for 14–17 year olds. The lower across-time correlations for the youngest age groups observed in the present study might be due to the longer time-span between assessments in the present study (i.e. 3 years rather than 1 year). Social fear in younger children might be fairly stable across a 1-year period but not across a longer time period.

Contrary to expectations, very low continuity was observed for high social fear scores. Only about 10% of those scoring at 2 *SD* above the mean at Time 1 maintained a similarly high fear score at Time 2, whereas about 90% of individuals with fear scores of 2 *SD* above the mean at Time 1 had dropped 1 or more *SD* at Time 2. Such large shifts cannot be explained completely by the regression to the mean effect. Thus, for many of the young people who could be argued to have demonstrated clinical or at least subclinical levels of social fear at Time 1, there was a decrease to normative fear levels at Time 2.

The rather low continuity of high fear scores is consistent with the findings of the Poulton *et al.* (1997) study. They used a list of fear items derived from the DISC-C to investigate the continuity of potentially clinically significant fears in a 2-year follow-up study of 772 adolescents (age 13 years at inception). They found that 35 participants (4.5%) reported one or more potentially clinically significant fears at age 13 and again at age 15 years, but there was considerable variation in the type of fear reported over time. In contrast, a much larger number of participants ($N = 165$; 21.4%) reported one or more such fears at age 13 *or* at age 15. They concluded that ‘. . . discontinuity is the rule’ (p. 162), which is supported by the findings of the present study.

These findings and conclusions are derived from child and adolescent samples, and are in contrast with the findings and conclusions that are derived from adult samples. For example, in a large longitudinal study in which almost 600 individuals were assessed five times between 20 and 35 years of age, substantial continuity in the expression of severe social anxiety was found (Merikangas, Avenevoli, Acharyya, Zhang, & Angst, 2002). The contrast between findings based on child and adolescent samples when

compared to those based on adult samples suggests that severe forms of social fear do not stabilize until late adolescence. To investigate the factors related to the stabilization of social evaluation fear during adolescence, longitudinal research incorporating intra-personal factors such as sexual and socio-cognitive maturation as well as contextual factors such as peer relations and family environment is required. Such research would contribute to our general understanding of adolescent development and to our understanding of why adolescence is a vulnerable period for developing dysfunctional social anxiety.

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