A developmental analysis of self-reported fears in late childhood through mid-adolescence: social-evaluative fears on the rise?

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Background: The frequently reported decline in the overall frequency and intensity of fears during late childhood and adolescence may mask different developmental patterns for two broad subclasses of fears: fears concerning physical danger and fears concerning social evaluation. It was investigated if physical fears decrease between late childhood and mid-adolescence, while social-evaluative fears increase during this period. It was also studied if changes in both sets of fears are more strongly related to socio-cognitive maturity than to age, which itself is only a proxy measure of maturity. Methods: A non-clinical sample of 882 children and adolescents (ages 8–18) was recruited for study. Fears were assessed using the Ollendick Fear Survey Schedule for Children – Revised (FSSC-R). A Principal Components Analysis (PCA) was conducted to study the factor structure of the Failure and Criticism subscale of the FSSC-R. Level of development was assessed using the Sentence Completion Test for Youth (SCT-Y), a measure of socio-cognitive maturity that is based on Loevinger’s model, and measure, of ego development. Results: The PCA of the Failure and Criticism subscale revealed three factors: Social Evaluation, Achievement Evaluation, and Punishment. As predicted, the significant decrease of overall fearfulness obscured two contradictory developmental patterns: (a) fears of physical danger and punishment decreased with age, whereas (b) fears of social and achievement evaluation increased with age. Hierarchical regression analyses showed that the age effect for social-evaluative fears was explained entirely on the basis of developmental differences in socio-cognitive maturity (controlling for verbal ability). In contrast, age was a better predictor of the decrease of physical and punishment fears (although socio-cognitive maturity still added to the predictive value of age). Conclusion: The expression of social evaluation fears during adolescence appears not atypical and might be a corollary of socio-cognitive maturation. At the same time, the natural presence of those fears during adolescence appears to constitute a vulnerability for developing a social anxiety disorder. Keywords: Adolescence, conformity, ego development, fears, normal development, school children. Abbreviations: WUSCT: Washington University Sentence Completion Test; SCT-Y: Sentence Completion Test for Youth; FSSC-R: Fear Survey Schedule for Children – Revised.

The fears of children and adolescents have been studied extensively (see Gullone, 2000; Marks, 1987). In general, findings suggest that the overall frequency, and intensity, of fears declines between late childhood and adolescence (e.g., Campbell & Rapee, 1994; Dong, Xia, Lin, Yang, & Ollendick, 1995; Gullone & King, 1992, 1997; Gullone, King, & Ollendick, 2001; King, Gullone, & Ollendick, 1992; King et al., 1989; Ollendick, King, & Frary, 1989; Spence & McCathie, 1993). This decline has been reported in cross-sectional as well as longitudinal studies and has been observed in several countries (see Fonseca, Yule, & Erol, 1994). Such findings have led many professionals to assume that the expression of fears during childhood is normal and transitory, while the expression of fears during adolescence is atypical and possibly a sign of psychopathology.

However, the frequently reported decline in overall fearfulness may mask different developmental patterns for two broad classes of fears: fears concerning physical danger and fears concerning social evaluation. The present study examined whether fears concerning social evaluation increase during middle childhood and mid-adolescence, while fears of physical danger decrease during this period. This study also examined if the frequency of self-reported social-evaluative fears is related to socio-cognitive maturation.

Developmental paths of physical and social fears

Support for a global distinction between physical and social fears was provided by a factor-analytic study conducted by Campbell and Rapee (1994). In a pilot study they generated a list of 31 fear items. The list of items was presented to a sample of 560 children and adolescents (aged 6 to 16). A factor analysis indicated that youngsters are concerned about two types of feared outcomes: physical harm (e.g., being burned) and social problems (e.g., being teased). The same two factors were observed in adults (Lovibond & Rapee, 1993).
Most researchers have used the Fear Survey Schedule for Children – Revised (FSSC-R; Ollendick, 1983) or the FSSC-II (a revised version of the FSSC-R; Gullone & King, 1992) to study age changes in the frequency and intensity of fears. The FSSC-R and FSSC-II each consist of 5 subscales. Fears of physical danger are typically categorized into four subscales: 1) fear of minor injury and small animals, 2) fear of danger and death, 3) fear of medical situations, and 4) fear of the unknown. A fifth subscale is used to assess fears of social evaluation: fear of failure and criticism.

Most studies using the FSSC-R and FSSC-II report statistically significant declines in physical fear scores between childhood and late adolescence (e.g., Dong et al., 1995; Dong, Yang, & Ollendick, 1994; Gullone & King, 1997; Gullone et al., 2001; Gullone & Lane, 2002; King et al., 1992; King et al., 1989; Ollendick et al., 1989; see also Campbell & Rapee, 1994). The prominence of fears of physical threats in early and middle childhood has been attributed to its survival value. Children appear endowed with a natural inclination to avoid potentially harmful stimuli and they are encouraged by their caretakers to do so (e.g., Marks, 1987). The observed decline of physical fears during late childhood and early adolescence has been attributed to cognitive and physical maturation and to increasing knowledge of one’s physical surroundings (see Gullone, 2000).

In contrast with the consistent and understandable decrease of physical fears, the relationship between age and social fears is more equivocal. Most studies using the FSSC-R report no relationship between age and the scores on the fear of failure and criticism subscale (e.g., Gullone et al., 2001; King et al., 1992; King et al., 1989; Ollendick et al., 1989; see also Campbell & Rapee, 1994), while a few other studies report a decrease in scores on the fear of failure and criticism subscale (e.g., Dong et al., 1995; Gullone & Lane, 2002; Ollendick et al., 1989). One study reports a non-linear relationship with age: an increase between late childhood and early adolescence, followed by a decrease (Dong et al., 1994). And one study reports an increase in scores on the psychic stress–medical fear subscale of the FSSC-II (this scale includes 5 social fear items; Gullone & King, 1997).

Studies that were based on other methods for assessing social-evaluative concerns also yielded inconsistent findings. For example, a cross-sectional study of school children (ages 6 to 16) with the Child and Adolescent Worry Scale did not yield a significant relationship with age (Campbell & Rapee, 1994), whereas a longitudinal study of adolescents (ages 13 to 15) with a list of fear items derived from the Diagnostic Interview Schedule for Children revealed an increase with age (Poulton et al., 1997).

In contrast with the inconsistent age trends observed in studies of social-evaluative fears in nonclinical populations, a more consistent age trend has been observed in studies of social anxiety disorders in clinical populations as well as in samples of the general population. Most clinical and epidemiological studies suggest an increasing prevalence of social anxiety disorders, or related disorders, during mid-adolescence (e.g., McGee, Feehan, Williams, & Anderson, 1992; Westenberg, Siebelink, Warmenhoven, & Treffers, 1999). For example, a study of social phobia and social fears among 1035 adolescents (ages 12–17) has shown a significant increase of the frequency of social phobia from early to mid-adolescence (Essau, Conradt, & Petermann, 1999).

Some authors have suggested that the increase of social anxiety disorders in the adolescent years is related to an increase of normally occurring social fears (e.g., Poulton et al., 1997; Westenberg, Siebelink, & Treffers, 2001). This connection has not, however, been firmly established empirically. Indeed, as was noted earlier, most studies on social-evaluative fears in nonclinical populations have not reported an age-related increase of social-evaluative fears.

Inspection of the items on the fear of failure and criticism subscale of the FSSC-R and FSSC-II suggests an explanation for the absence of a consistent age pattern. Some items depict situations that are characterized by a fear of punishment (e.g., ‘getting punished by mother’, ‘being sent to the principal’), while other items depict situations that are characterized by a fear of social evaluation (e.g., ‘looking foolish’, ‘being criticized by others’, ‘getting a report card’). These two types of fears may follow a different developmental course between late childhood and mid-adolescence. Specifically, fears of social evaluation might increase during this period, while fears of punishment might decrease.

Support for this tentative hypothesis is provided by findings of a few studies. For example, Ollendick et al. (1989) administered the FSSC-R to 1185 participants ages 7–16. Post-hoc analyses revealed that the item ‘being sent to the principal’ was more frequently endorsed by respondents ages 7–10, whereas the item ‘failing a test’ was more frequently endorsed by respondents ages 14–16. Similar findings were reported by Gullone and King (1993) in a study of participants ages 7–18. Children (ages 7–10) were more concerned about ‘being sent to the principal’, whereas adolescents (ages 15–18) were more concerned about ‘giving an oral report.’ Finally, King et al. (1989) assessed the fears of 3118 children and adolescents (ages 8–16), and reported that punishment-related fear items were endorsed with greater frequency by children (ages 8–10), whereas social-evaluation fear items were endorsed with greater frequency by adolescents (ages 14–16): ‘if most of these items were having to talk to the class, having to sing or put on a play, taking a test, failing a test and poor grades’ (p. 778).

Although several investigators have incidentally noted an increase of some social-evaluative fears
during adolescence, the latter increase was typically not regarded as part of normal development. Rutter and Garmezy (1983), for example, noted that ‘...certain social anxieties that generally arise at, or after, puberty... are not part of normal development... [and] are generally considered intrinsically abnormal fears or phobias’ (pp. 804–805). More recently, however, researchers have proposed that increases in social-evaluative fears in the adolescent years might be part of normal development (e.g., Gullone & King, 1997; Ollendick & Hirshfeld-Becker, 2002; Velting & Albano, 2001; Westenberg, Siebelink et al., 2001). Ollendick and Hirshfeld-Becker (2002), for example, noted that ‘as children emerge from infancy into childhood and adolescence, they place increasing importance on how peers, friends, and adults perceive them and how they “come across” in their social interactions with them. Transient episodes of social anxiety are not uncommon and are part and parcel of normal development’ (p. 44).

Social-evaluative fears and socio-cognitive maturity

Several models of socio-cognitive development predict a rise in self-consciousness and self-awareness during adolescence, developmental changes that may result in fears about negative evaluation. Gullone and King (1997) propose that an increase of social-evaluative fears may be due to the advent of adolescence. Elkind (as cited in Elkind & Bowen, 1979) refers to as ‘adolescent egocentrism.’ Elkind proposes that teenagers move through a period of egocentrism, characterized by the belief that he or she is the continual object of everyone’s attention (a phenomenon that Elkind refers to as ‘the imaginary audience’). Notably Elkind regards the growth of adolescent egocentrism as an inevitable by-product of the growth of abstract reasoning and thus a developmental transition traversed by most teenagers. Likewise, Selman (1980) proposes that young adolescents develop an increasing capacity for perspective-taking, enabling them to view themselves through the eyes of other people. In its nascent form, such perspective-taking results in heightened self-consciousness and, presumably, fear of social evaluation.

Speculations regarding the connection between socio-cognitive maturation on the one hand and a possible rise in fear of social evaluation on the other hand has not yet been subjected to empirical scrutiny. Indeed, as was noted earlier, a rise in social fears did not consistently emerge from empirical research and is not considered by all to be an inevitable by-effect of normal socio-cognitive development. In other words, the link between social-evaluative fears and other aspects of social and cognitive development is not an undisputed fact. The present study therefore sought to empirically investigate the proposed connection between social-evaluative fears and socio-cognitive development.

In a search for candidates to study the developmental course of fears in childhood and adolescence, Westenberg, Siebelink et al. (2001) considered several theories (and measures) of socio-cognitive development, such as Selman’s (1980) developmental model of social cognition, Erikson’s (1950) model of psychosocial development, Damon’s (1977) model of social understanding, and Loevinger’s (1976) model of ego development. It was concluded that, for conceptual as well as empirical reasons, Jane Loevinger’s theory and measure of ego development would be best suited to study the potential connection between social fears and socio-cognitive development in the age period from late childhood through mid-adolescence (age 8 to 18 years). Her account of development captures the common ground of the various theories and is accompanied by a solid research tool that allows for a direct empirical test of the presumed relationship between social fears and developmental maturity.

Loevinger (1976, 1997) portrays socio-cognitive growth as a series of changes in impulse control, interpersonal relations, and conscious preoccupations. Developmental advances in these domains are depicted in terms of ‘stages,’ a term that implies an underlying coherence and structure to personality. Eight developmental stages have been identified by Loevinger and her colleagues (see below); each developmental stage, or ego level, is defined by a characteristic way of perceiving and responding to the social world.

The term ‘ego’ refers to a ‘...striving to master, to integrate, [and] to make sense of experience...’ (Loevinger, 1976, p. 59). For Loevinger the ‘ego’ is an abstraction, not an extant structure; thus she describes the ego informally, referring to it as ‘a frame of reference,’ or ‘lens,’ through which individuals perceive their world (ego development thus represents a change in one’s frame of reference). Several authors have mistakenly associated Loevinger’s model of ego development with the psychoanalytic tradition. The link is nonexistent, however, as Loevinger has repeatedly stated (Loevinger, 1976, 1993; see also Westen, 1998).

The first four ego levels are relevant for the course of fears in late childhood through adolescence. The following summary descriptions of these four ego levels, and the proposed link with fears, are based on a large-scale study of ego development in children and adolescents (N = 2773; Westenberg, Jonckheer, Treffers, & Drewes, 1998).

The first, Impulsive, ego level is characterized in part by a preoccupation with aggressive impulses and by dependency on caretakers to regulate aggressive, and other, impulses in self and others. Impulsive individuals feel generally vulnerable and rely on their caretakers for protection against (physical) threats from the outside. Caretakers and...
other adults are expected to set the rules and enforce them. Yet, impulses may temporarily override the generally docile attitude. It is conceivable that Impulsive individuals are particularly fearful of physical threats and of punishment imposed by elders (e.g., parents, teachers). They fear (physical) punishment itself because it could be hurtful and because they might fear the loss of protection. The caretaker is the one who should be in control of self and others and should provide care, guidance, and protection against physical dangers, not punishment. In contrast, social evaluation is not expected to be a prominent concern at this stage of development.

The second, Self-protective, ego level is characterized in part by a preoccupation with control of self and others and by an emphasis on self-reliance and self-determination. The need for control may be expressed in self-focused ways or in ways focused at other people: manipulation of one’s own feelings (e.g., denial of hurt feelings or problems generally) is as typical as the manipulation of other people. These individuals do not like to depend on the care and protection afforded by parents or teachers; on the contrary, they like to fend for themselves. It is conceivable that Self-protective individuals will report fewer fears of physical dangers and of punishment than Impulsive individuals. They might think that they are in control of the physical environment and feel that they can handle the punishment. Self-protective individuals are also likely to report a relatively low fear of social evaluation. What other people think of them is not of much concern.

The third, Conformist, ego level is characterized in part by a heightened concern with the pursuit of social approval. Conformist individuals want to meet the demands of their reference group, in terms of correct opinions, behavior, appearance, and achievements. Relationships with other people are intrinsically valuable, and are characterized by reciprocity, equality, and like-mindedness. When unable to meet social expectations or standards for achievement they assume a self-blaming attitude. It is conceivable, therefore, that Conformists would report fears of social and achievement evaluation. They might fear that they cannot meet the demands of their social group and that failure would lead to being ridiculed and ostracized. Indeed, a mild level of social fearfulness might support their adaptability to the social environment. In contrast, punishment and physical threats are not expected to be prominent concerns at this stage of development.

The fourth, Self-aware, ego level is characterized in part by an internal orientation toward personal feelings, thoughts, and opinions. Self-aware people are focused on their own world, a world possibly different from the outside world. Personal feelings and thoughts are cherished, adjustment to the outside world is undesirable. But while they are geared toward inner feelings and thoughts, they still need the approval and mental support of others. The wish to be true to their own feelings and thoughts may cause social disapproval and isolation. It is thus expected that Self-aware individuals are likely to report fears of negative evaluation. Thus, Self-aware individuals are not expected to be less fearful of social evaluation than are Conformist people.

Higher ego levels – Conscientious, Individualistic, Autonomous, and Integrated – rarely occur during childhood and adolescence. In the population of adolescents and children over 8 years of age, the Impulsive ego level is most prevalent among 8- to 10-year-olds, the Self-protective ego level is most prevalent among 11- to 13-year-olds, the Conformist ego level among 14- to 17-year-olds, and the Self-aware ego level becomes more prevalent at 18 years of age (see Avery & Ryan, 1988; Cohn, 1998; Westenberg & Block, 1993; Westenberg, Jonckheer et al., 1998). Notably, however, the developmental changes depicted by Loevinger’s model of socio-cognitive development are not strictly age-related; there are striking individual differences in the speed and timing of the developmental steps outlined above (e.g., Gfeller, 1986; Westenberg & Gjerde, 1999). An individual’s pace, and extent, of development depends on many influences beyond the mere passage of time. Recent studies have identified some of these, social and biological, influences (Allen, Hauser, Bell, & O’Connor, 1994; Hauser et al., 1984; Newman, Tellegen, & Bouchard, 1998).

Hence, developmental variability should be taken into account when studying age trends in the frequency and intensity of social fears. Mature teenagers (be they age 12, 15, or 18) are expected to express more fears about social evaluation, while less mature teenagers (be they age 12, 15, 18) are expected to express more fears about punishment and fighting. If the latter prediction is accurate, then studies which simply report age trends in the social-evaluative fears may overlook important developmental trends.

Study aims and hypotheses

The current study investigates if social-evaluative fears increase while physical and punishment fears decrease between late childhood and mid-adolescence (age 8 to 18). Punishment and physical fears are expected to be most prevalent at the lowest level of socio-cognitive maturity (i.e., Impulsive ego level), whereas social-evaluative fears are expected to be most prevalent at higher levels of maturity (i.e., Conformist and Self-aware ego levels). Hence, since socio-cognitive maturity is generally age-related, fears of physical dangers and of punishment are expected to be most prevalent in children ages 8–11, whereas fears of social evaluation are expected to be most prevalent in adolescents ages 15–18. These developmental patterns are expected to be similar for boys and girls. That is, a significant age (or ego level)
by gender interaction effect is not expected. The study also investigates if changes in both sets of fears are more strongly related to socio-cognitive maturity than to age, which itself is only a proxy measure of maturity. Finally, it was studied whether the relationship between fears and developmental maturity might be an artifact of individual differences in verbal ability.

Method

Participants

Participants were 882 children and adolescents recruited from three elementary schools (grades 3–6; ages 8–12; \(N = 290\)) and two high schools (grades 7–12; ages 12–18; \(N = 592\)) in the Netherlands. The schools were selected to represent all SES levels and academic backgrounds (e.g., college preparatory schools, technical schools). Parental consent was obtained in the following manner. Parents received an elaborate description of the study at their home address and they were given access to the measures (in the school director’s office). Parents were asked if their child might participate in the research. If not, parents were asked to note their rejection on an enclosed form in a stamped return envelope. Only 3 parents did not allow their child to participate in the research. The pupils themselves were also asked to participate in the research and it was explained to them that their participation was entirely voluntary. None of the children refused; on the contrary, most children were eager to participate. The entire project, including recruitment and consent procedures, was approved by the Medical Ethical Committee of the Leiden University Medical Center.

The average age of the participants was 13.7 years (SD = 2.7); boys were significantly older than girls (14.0 vs. 13.3 years of age, respectively; \(t = 3.77; df = 879; p < .001\)). For purposes of data analyses, participants were assigned to three age groups: late childhood (8–11 years of age; \(N = 288\): 135 boys, 153 girls), early adolescence (12–14 years of age; \(N = 303\): 174 boys, 129 girls), and mid-adolescence (15–18 years of age; \(N = 291\): 180 boys, 111 girls).

Procedures

All measures were administered in the classroom in two separate 45-minute sessions (ego development was assessed in session 1, fears and verbal ability were assessed in session 2).

Assessment of socio-cognitive maturation. Socio-cognitive maturity was assessed using the Sentence Completion Test for Children and Youths (SCT-Y; Westenberg, Treffers, & Drewes, 1998). The SCT-Y is a revised version of Loevinger’s (1985) Washington University Sentence Completion Test (WUSCT; Hy & Loevinger, 1996). The SCT-Y and accompanying scoring manual was specifically constructed for use with adolescents and children over 8 years of age (Westenberg, Jonckheer et al., 1998), whereas Loevinger’s WUSCT was constructed on the basis of (young) adult samples (Loevinger, 1998).

The SCT-Y consists of 32 incomplete sentences (e.g., ‘If I can’t get what I want –’; ‘My mother and I –’); respondents are instructed to complete the sentence stems in any way that they wish. The scoring manual for the SCT-Y consists of over 2000 response categories (i.e., clusters of similar responses that were collected from a large database used to construct the manual). The scoring manual consists of about 80 response categories for each of the 32 items. These response categories are catalogued by ego level. Examples of responses to the item ‘If I can’t get what I want –’ are: ‘I ask my father’ (catalogued at the Impulsive ego level); ‘I don’t care’ (placed at the Self-protective ego level); ‘I must accept it’ (Conformist ego level); ‘I feel disappointed’ (Self-aware level); and so forth. The scoring manual is empirically constructed by an iterative, self-correcting procedure called ‘micro-validation’ (Loevinger, 1993). That is, response categories were catalogued by ego level based on data obtained from large and heterogeneous samples (Westenberg, Jonckheer et al., 1998).

The responses were scored according to the following procedures: (1) for each respondent the 32 responses were typed into a spreadsheet; (2) the responses were then sorted by item and put in random order (i.e., all 882 responses to item 1 were grouped together and randomized); (3) raters were kept blind to participants’ demographic information, such as age, gender, and grade level; (4) each response was matched by two independent raters with a response category in the scoring manual; (5) the relatively few disagreements between the two raters were resolved by asking a third rater to rate these responses, to resolve the differences by a majority vote; (6) the responses plus the ego level ratings were then resorted to the original protocols, yielding a set of 32 independent item ratings for each individual; (7) the frequency distribution of the 32 item ratings of each individual SCT-Y protocol was converted to a Total Protocol Rating (TPR) by matching the individual frequency distribution with the prototypical frequency distribution for each ego level presented in the scoring manual. The TPR reflects the respondent’s core ego level: 1 = Impulsive, 2 = Self-protective, 3 = Conformist, 4 = Self-aware, and 5 = Conscientious (the higher ego levels – Individualistic and Autonomous – did not emerge in our sample). In addition to the discrete TPR, a continuous ego level score was computed by averaging the 32 item ratings (i.e., Item Average Score; IAS).

The SCT-Y has excellent psychometric properties (e.g., high internal consistency of the items and high test–retest stability of total scores; see Westenberg, Hauser, & Cohn, 2003). Perfect interrater agreement in the present study ranged from 79% to 93% (the Kappa statistic ranged from .73 to .91, \(p < .001\)). Cronbach’s alpha for the 32 items was .95.

Evidence for the construct validity of Loevinger’s model and measure is extensive. Findings of over 350 empirical studies generally support critical assumptions underlying the ego development construct: (a) longitudinal studies have confirmed the invariance of the developmental steps (i.e., no stage can be skipped; see Loevinger, 1998); (b) average increases with age as well as individual differences in ego level maturity have
been documented (Cohn, 1998; Westenberg & Gjerde, 1999); (c) ego level maturity is related to a wide variety of relevant individual differences within age groups (see Manners & Durkin, 2001; Westenberg, Blasi, & Cohn, 1998); (d) ego level scores display incremental validity over IQ and SES (e.g., Browning, 1987; Cohn & Westenberg, 2002); and (e) the construct and the measure have proved applicable in different countries, cultures, and languages (see Carlson & Westenberg, 1998). The SCT-Y was only recently developed and cross-validated and thus lacks a similarly large research base. Evidence for the construct validity of the SCT-Y is accumulating (Drewes & Westenberg, 2001; Westenberg, van Strien, & Drewes, 2001; Westenberg, Siebelink et al., 1999; for an overview, see Westenberg et al., 2003).

Assessment of fears. A Dutch translation of the Ollendick (1983) Fear Survey Schedule for Children – Revised (FSSC-R; Oosterlaan, Prins, Hartman, & Sergeant, 1995) was used to assess the frequency and intensity of social and physical fears. The FSSC-R consists of 80 items; each item describes a different fear. Respondents are required to rate each item on a three-point scale: 1 = no fear, 2 = some fear, 3 = much fear. The FSSC-R consists of five subscales: (1) fear of failure and criticism (23 items), (2) fear of the unknown (18 items), (3) fear of minor injury and small animals (17 items), (4) fear of danger and death (12 items), and (5) medical fears (4 items; Ollendick et al., 1989). The Failure and Criticism subscale assesses social fears (e.g., ‘being criticized by others’); the other 4 subscales depict physical fears (e.g., ‘being hit by a car or truck’). Subscale scores represent the average of the corresponding item scores. In addition, a Total Fear Score was computed by averaging the 80 item scores.

Previous studies have shown a consistent gender effect: at all ages, girls report more fears than boys on all scales of the FSSC-R (see Gullone, 2000). This main effect for gender might cause artificial differences in fear level among developmental groups, due to the uneven distribution of boys and girls in each age group and at each ego level. Therefore, fear scale scores were standardized to eliminate the main effect for gender. That is, z-transformations of the fear scores were computed separately for boys and for girls, resulting in standardized scores with the same mean (and standard deviation) for each gender.

The FSSC-R is reported to have good reliability and validity (e.g., Ollendick, 1983; Ollendick et al., 1989). In the present study Cronbach’s alpha was .90 for the Failure and Criticism subscale, .88 for the Unknown subscale, .85 for the Animals and Small Injury subscale, .89 for the Danger and Death subscale, and .69 for the Medical subscale. Cronbach’s alpha of the Total Fear Score was .95.

Assessment of verbal ability. Vocabulary was selected as the index of individual differences in verbal ability. Previous studies have shown that level of ego development is significantly related to individual differences in vocabulary, and that the magnitude of this relationship is similar to the magnitude of the relationship with verbal intelligence as assessed with multiple subtests (see Cohn & Westenberg, 2002). Vocabulary was assessed with two instruments: (a) 3rd through 6th grade participants (ages 8 to 12) were given the vocabulary subtest of the Test Battery for Elementary Schools by the Cito-group (i.e., Dutch Educational Testing Service); and (b) 7th through 12th grade participants (ages 13 to 18) were given the vocabulary subtest of the Differential Aptitude Test (DAT; Bennett, Seashore, & Wesman, 1974; Dutch adaptation by Evers & Lucassen, 1984).

Both instruments consist of a booklet containing multiple choice questions and respondents are asked to check the correct responses on a separate form (suitable for automatic processing). The Cito-test requires respondents to choose the correct definition, out of 4 alternatives, of a word presented in the context of a brief sentence. The DAT requires respondents to choose the correct synonym, out of 5 alternatives, for the presented term. The Cito-form for 3rd and 4th graders consists of 34 items; the form for 5th and 6th graders consists of 41 items. The DAT-form consists of 75 items. Total scores were computed by counting the number of correct responses. For each grade level, standardized scores were then computed, to account for the differences between the tests (i.e., item number and item content varied among the three vocabulary tests).

Results

Level of socio-cognitive maturity and age group

Participants of the present study were mostly at the Impulsive (N = 165: 93 boys, 72 girls), Self-protective (N = 375: 244 boys, 131 girls), and Conformist/Self-aware (N = 342: 152 boys, 190 girls) ego levels. (Participants at the Self-aware, or higher, ego level were relatively rare and it was not expected that this group would differ significantly from the participants at the Conformist level. Hence Self-aware participants were merged with the Conformist group for purposes of data analyses.) The distribution of children in each ego level by age group is presented in Figure 1.

Principal Components Analysis of the Failure and Criticism Scale

A Principal Components Analysis (PCA) was conducted to test the hypothesis that the Failure and Criticism subscale of the FSSC-R would consist of at least two factors (i.e., fear of social evaluation and fear of punishment). The PCA suggested a three-factor solution: the eigenvalues for the first three factors were 6.91, 1.62, and 1.50. A scree plot showed a clear ‘break’ between the third and the fourth factors (the eigenvalue for the fourth factor was 1.09). A varimax rotation of the three factors yielded conceptually distinct subscales, which might be termed ‘fear of social evaluation’ (9 items), ‘fear of achievement evaluation’ (6 items), and ‘fear of punishment’ (7 items; see Table 1). Two items did not load on any factor (factor loadings did not exceed .30). A Principal Axis Factoring with oblimin rotation yielded the exact same factor structure.
Both factor analyses yielded highly similar factor structures for girls and boys separately. The three factors explained 44% of the variance. Cronbach’s alphas were .80 for Social evaluation, .84 for Achievement Evaluation, and .75 for Punishment. Subsequent analyses were conducted for the three subscales as well as for the entire Failure and Criticism scale.

**Developmental changes in fears**

Three sets of statistical analyses were conducted to study the relationship of age and ego level with fear scores: (1) analyses of variance, (2) hierarchical regression analyses, and (3) Chi-square analyses. Because of the large sample size the minimum significance level was set at .01 for all analyses.

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**Table 1** Principal Components Analysis of the Fear of Failure and Criticism Scale of the FSSC-R1 (factor loadings)

<table>
<thead>
<tr>
<th>Subscale 1. Social evaluation</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>46. Having to put on a recital</td>
<td>.68</td>
<td>.00</td>
<td>.13</td>
</tr>
<tr>
<td>69. Doing something new</td>
<td>.65</td>
<td>.15</td>
<td>.10</td>
</tr>
<tr>
<td>1. Giving an oral report</td>
<td>.62</td>
<td>.22</td>
<td>.00</td>
</tr>
<tr>
<td>63. Having to wear clothes different from others</td>
<td>.59</td>
<td>.18</td>
<td>.13</td>
</tr>
<tr>
<td>19. Meeting someone for the first time</td>
<td>.57</td>
<td>.11</td>
<td>.13</td>
</tr>
<tr>
<td>48. Being criticized by others</td>
<td>.52</td>
<td>.36</td>
<td>.33</td>
</tr>
<tr>
<td>24. Being teased</td>
<td>.49</td>
<td>.17</td>
<td>.33</td>
</tr>
<tr>
<td>5. Looking foolish</td>
<td>.43</td>
<td>.25</td>
<td>.31</td>
</tr>
</tbody>
</table>

Subscale 2. Achievement evaluation

| 29. Getting poor grades      | .15      | .80      | .20      |
| 40. Failing a test           | .17      | .80      | .21      |
| 80. Taking a test            | .25      | .74      | .00      |
| 54. Getting a report card    | .16      | .70      | .12      |
| 66. Making mistakes          | .45      | .53      | .17      |
| 31. My parents criticizing me | .17   | .49      | .43      |

Subscale 3. Punishment

| 3. Getting punished by my mother | .00  | .00      | .71      |
| 64. Getting punished by my father | .00 | .22      | .69      |
| 15. Being sent to the principal | .21  | .14      | .60      |
| 65. Having to stay after school | .30   | .19      | .59      |
| 44. Having my parents argue   | .13    | .25      | .55      |
| 28. Being called on by the teacher | .39 | .12      | .47      |
| 14. Getting sick at school    | .14     | .00      | .45      |

Not included in Subscale

| 38. Having to eat food I don’t like | .12 | .24      | .23      |
| 42. Having to go to school       | .29 | .13      | .12      |

Note: Factor loadings above or equal to .30 are italicized.

1 Fear Survey Schedule for Children – Revised (Ollendick, King, & Frary, 1989)
1. Analyses of variance. Analyses of variance (ANOVA) were applied to investigate the predicted relationship between scores on the various fear scales with the participants’ age and level of ego development. Age (or ego level) by gender interaction effects were included in the analyses to test the hypothesis that the developmental pattern would be similar for boys and girls. (The main effect for gender had been eliminated by means of the z-transformations of the fear scores; see Method.)

Relations to age. A 3 (age) × 2 (gender) MANOVA showed a significant main effect of age (i.e., 3 age groups) on the three social subscales \((F(6, 1746) = 51.85, p < .001;\) the age data and the Univariate F-tests for each subscale are presented in Table 2). The age by gender interaction effect was not significant \((F(6, 1746) = 0.89, ns.,\) demonstrating that the relationship with age was similar for boys and girls. Based on post-hoc tests of group differences (Scheffé procedure and effect sizes) it can be concluded that children ages 8–11 were significantly more concerned about punishment than were adolescents (ages 12–14 and 15–18), whereas mid-adolescents ages 15–18 were significantly more concerned about social evaluation than were younger participants (ages 8–11 and 12–14; see Table 2). A linear relationship was detected for achievement evaluation: the youngest age group is significantly less fearful than the middle age group, and the latter age group is significantly less fearful than the oldest age group. Overall, the largest effect sizes were obtained for the difference between the youngest and the oldest age groups. Those findings were consistent with expectations: child participants were more concerned about being punished, whereas mid-adolescents were more concerned about social and achievement evaluation.

Also as expected, the very clear age trends reported above were masked when the analysis was restricted to the total Failure and Criticism scale. A 3 (age) × 2 (gender) ANOVA revealed that the total score on the Failure and Criticism scale was weakly related to age, but this relationship was not statistically significant (see Table 2). The age by gender interaction effect was not significant either \((F(2, 876) = 2.45, ns.)\).

A 3 (age) × 2 (gender) MANOVA also indicated a significant effect of age on the four physical subscales \((F(8, 1746) = 13.46, p < .001;\) the age data, Univariate F-tests, post-hoc tests of mean differences, and effect sizes are presented in Table 2). The age by gender interaction effect was not significant \((F(8, 1746) = 1.29, ns.)\). Results revealed the expected decrease of physical fears: children (ages 8–11) were significantly more fearful than were adolescents (ages 12–18) of the unknown, of animals and small injury, and of danger and death. Children were also more fearful of medical situations than were early adolescents. The two adolescent age groups (12–14 and 15–18 years) were not significantly different from each other on any of the physical subscales.

Consistent with the findings of several prior fear survey studies, the results also revealed the age-related decrease of the Total Fear Score (i.e., the average score of the 80 FSSC-R items). Children ages 8–11 report significantly more fear than adolescents ages 12–18 (see Table 2). Again, the age by gender interaction effect was not significant \((F(2, 876) = 1.16, ns.)\).

Relations to ego level maturity. A 3 (ego level) × 2 (gender) MANOVA indicated a significant effect of ego level on the three social subscales \((F(6,1746) = 24.09, p < .001;\) the data, Univariate F-tests, results of Scheffé procedure, and effect sizes are presented above were masked when the analysis was restricted to the Total Fear Score (i.e., the average score of the 80 FSSC-R items). Children ages 8–11 report significantly more fear than adolescents ages 12–18 (see Table 2). Again, the age by gender interaction effect was not significant \((F(2, 876) = 1.16, ns.)\).

### Table 2 Effect of age group on social and physical fear scores (fear scores standardized by gender)

<table>
<thead>
<tr>
<th>Age groups:</th>
<th>Means (standard deviations)</th>
<th>Univariate F-tests ((F(2, 876))</th>
<th>Post-hoc tests (^1) of group differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 8–11</td>
<td>288</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 12–14</td>
<td>303</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 15–18</td>
<td>291</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social fears</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Social evaluation (^b)</td>
<td>-.13 (.92)</td>
<td>-.14 (.94)</td>
<td>.28 (1.08)</td>
</tr>
<tr>
<td>Achievement evaluation (^b)</td>
<td>-.32 (.90)</td>
<td>.03 (.95)</td>
<td>.29 (1.05)</td>
</tr>
<tr>
<td>Punishment (^b)</td>
<td>.32 (.09)</td>
<td>-.07 (.96)</td>
<td>-.24 (.86)</td>
</tr>
<tr>
<td>Failure and criticism (^b)</td>
<td>-.07 (1.09)</td>
<td>-.07 (.98)</td>
<td>-.13 (.99)</td>
</tr>
<tr>
<td>Physical fears</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The unknown (^b)</td>
<td>.34 (1.16)</td>
<td>-.19 (.85)</td>
<td>-.15 (.88)</td>
</tr>
<tr>
<td>Animals and small injury (^b)</td>
<td>.22 (1.06)</td>
<td>-.17 (.89)</td>
<td>-.04 (1.01)</td>
</tr>
<tr>
<td>Danger and death (^b)</td>
<td>.44 (.93)</td>
<td>-.18 (.96)</td>
<td>-.24 (.97)</td>
</tr>
<tr>
<td>Medical situations (^b)</td>
<td>.14 (.90)</td>
<td>-.09 (.98)</td>
<td>-.04 (1.10)</td>
</tr>
<tr>
<td>Total Fear Score</td>
<td>.25 (1.09)</td>
<td>-.18 (.90)</td>
<td>-.07 (.96)</td>
</tr>
</tbody>
</table>

\(^a\) Scales from the Fear Survey Schedule for Children – Revised (FSSC-R; Ollendick, King, & Frary, 1989).
\(^b\) Subscale of the Failure and Criticism scale of the FSSC-R (see Table 1).
\(^1\) Significant differences between age groups are reported (e.g., '1–2' means that age group 1 differed significantly from age group 2; \(p < .05\)).
\(^2\) \(d = M1 – M2/((SD1 + SD2)/2)\).
\(^*\) \(p < .01\); \(^**\) \(p < .001\).
A developmental analysis of social fears

Table 3 Effect of ego level on social and physical fear scores (fear scores standardized by gender)

<table>
<thead>
<tr>
<th>Ego level:</th>
<th>1. Impulsive</th>
<th>2. Self-protective</th>
<th>3. Conformist/Self-aware</th>
<th>Univariate F-tests</th>
<th>Post-hoc tests</th>
<th>Effect size (d^2) of group differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social fears</td>
<td>N: 165</td>
<td>375</td>
<td>342</td>
<td>F(2,876)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social evaluation</td>
<td>–.28 (.80)</td>
<td>–.12 (.93)</td>
<td>.26 (1.10)</td>
<td>21.70**</td>
<td>1–3; 2–3</td>
<td>.18; .57; .38</td>
</tr>
<tr>
<td>Achievement evaluation</td>
<td>–.34 (.84)</td>
<td>–.08 (.95)</td>
<td>.26 (1.06)</td>
<td>23.28**</td>
<td>1–2; 1–3; 2–3</td>
<td>.29; .63; .34</td>
</tr>
<tr>
<td>Punishment</td>
<td>.21 (1.08)</td>
<td>–.02 (.96)</td>
<td>–.07 (1.99)</td>
<td>4.63*</td>
<td>1–2; 1–3</td>
<td>.24; .28; .05</td>
</tr>
<tr>
<td>Failure and criticism</td>
<td>–.17 (.94)</td>
<td>–.08 (.96)</td>
<td>.17 (1.05)</td>
<td>8.83**</td>
<td>1–3; 2–3</td>
<td>.09; .34; .25</td>
</tr>
<tr>
<td>Physical fears</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The unknown</td>
<td>.23 (1.09)</td>
<td>–.05 (.96)</td>
<td>–.06 (1.99)</td>
<td>5.06*</td>
<td>1–2; 1–3</td>
<td>.26; .27; .01</td>
</tr>
<tr>
<td>Animals and small injury</td>
<td>.13 (1.01)</td>
<td>–.04 (.97)</td>
<td>–.02 (1.02)</td>
<td>1.93</td>
<td></td>
<td>.17; .15; .02</td>
</tr>
<tr>
<td>Danger and death</td>
<td>.30 (.95)</td>
<td>.04 (.97)</td>
<td>–.18 (1.02)</td>
<td>13.99**</td>
<td>1–2; 1–3; 2–3</td>
<td>.27; .48; .22</td>
</tr>
<tr>
<td>Medical situations</td>
<td>.12 (.92)</td>
<td>–.07 (.93)</td>
<td>.02 (1.10)</td>
<td>2.17</td>
<td></td>
<td>.21; .10; .09</td>
</tr>
<tr>
<td>Total Fear Score</td>
<td>.13 (1.04)</td>
<td>–.05 (.96)</td>
<td>–.01 (1.02)</td>
<td>1.77</td>
<td></td>
<td>.18; .14; .04</td>
</tr>
</tbody>
</table>

* Scales from the Fear Survey Schedule for Children – Revised (FSSC-R; Ollendick, King, & Frary, 1989).

** Subscale of the Failure and Criticism scale of the FSSC-R (see Table 1).

Significant differences between ego level groups are reported (e.g., ‘1–2’ means that Impulsive ego level differed significantly from Self-protective ego level; p < .05).

| d = M1 − M2/(SD1+SD2)/2 |

* p < .01; ** p < .001.

in Table 3). The gender by ego level interaction effect was not significant (F(6, 1746) = 2.54, ns.), demonstrating that the relationship with age was similar for boys and girls. As predicted, the fears of social evaluation and of achievement evaluation were positively related to ego level: Conformist/Self-aware individuals were more fearful of this than were Impulsive and Self-protective individuals. Also as predicted, the fear of punishment was negatively related to level of ego development: Impulsive individuals were most concerned about this, whereas Conformist/Self-aware individuals were least concerned about it.

A 3 (ego level) × 2 (gender) ANOVA revealed a positive and significant relationship with ego level for the Failure and Criticism scale: Conformist/Self-aware individuals were more concerned about this than were Impulsive and Self-protective individuals (see Table 3). The gender by ego level interaction effect was not significant (F(2,876) = 4.03, ns.).

A 3 (ego level) × 2 (gender) MANOVA also indicated a significant effect of ego level on the four physical subscales (F(8, 1746) = 5.27, p < .001), but univariate F-tests only revealed a significant effect for two scales: fears of the unknown and fears of danger and death. Scheffé tests indicated that Impulsive individuals are significantly more concerned about the unknown and about danger and death than are higher-level participants (see Table 3). The gender by ego level interaction effect was not significant (F(8, 1746) = 2.30, ns.).

A 3 (ego level) × 2 (gender) ANOVA also revealed that level of ego development was unrelated to the Total Fear Score (see Table 3). The gender by ego level interaction effect, however, was statistically significant (F(2, 876) = 5.70, p < .01). Yet, separate ANOVAs for boys and girls did not reveal a significant relationship between the total fear score and ego level for either gender (F(boys,3,485) = 2.14, ns.; F-girls,3,389) = 3.16, ns.).

2. Hierarchical regression analyses. Hierarchical regression analyses (HRA) were conducted to investigate whether age or ego level was the strongest predictor of the various fears. The HRAs were also utilized to address the question of whether the relationship between ego level and fears might in part reflect the importance of individual differences in verbal ability (as measured by vocabulary). Two HRAs were conducted: one with age entered first, vocabulary entered second, and ego level entered third (to see whether ego level had additional predictive value over age and vocabulary in the prediction of fear scores; see Table 4), and another one with ego level entered first, vocabulary entered second, and age entered third (to see whether age had additional predictive value over ego level and vocabulary in the prediction of fear scores; see Table 5). The HRAs were based on the continuous age score, the continuous ego level score (i.e., average of the 32 item scores: Item Average Score [IAS]), and the standardized vocabulary scores.

The product–moment correlation between ego level (IAS) and age (continuous variable) was .69 (p < .001), the correlation between ego level and vocabulary was .31 (p < .001), and the correlation between age and vocabulary was .00 (due to the standardization of vocabulary scores for each grade level).

As predicted, ego level added significantly to age and vocabulary in the prediction of the social fears: the R^2-change for ego level was significant for the three subscales (social evaluation, achievement evaluation, punishment) as well as for the combined
Failure and Criticism scale (see Table 4). Ego level also added significantly to age and vocabulary in the prediction of two physical fear scores (fears of the unknown, animals and small injury) and the total fear scores (see Table 4).

The second HRA was carried out to study the effect of age over and above the effects of ego level and vocabulary on fear scores (i.e., ego level was entered first, vocabulary second, and age third). The results presented in Table 5 show that age did not add to the prediction of social and achievement evaluation fears over and above the effects of ego level and vocabulary. In contrast, age added significantly to the prediction of the punishment fears, the four physical fears, and the total fear score.

Comparing the results of both sets of regression analyses indicated the following pattern: (a) ego level was the best predictor of the fear of social evaluation and achievement evaluation (age did not add significantly to the effects of ego level and vocabulary), and (b) age was the strongest predictor of the fear of punishment, the four physical fears, and the total fear score (yet, ego level added significantly to the effects of age and vocabulary in all but two cases). Interestingly, the second HRA showed that ego level by itself was unrelated to fears of animals and small injury and was also unrelated to the total fear score (see Table 5, step 1). However, controlling for age and vocabulary produced a significant effect for ego level for those fear scores (see Table 4, step 3). Vocabulary might operate as a statistical suppressor of the existing relationship between ego level and physical fears.

3. Chi-square analyses. Chi-square analyses were conducted to test the assumption that the rise in social and achievement evaluation fears was normative in the statistical sense. That is, a normative

### Table 4 Incremental effect of ego level on social and physical fears (controlling for effects of age and verbal ability)

<table>
<thead>
<tr>
<th>Social fears</th>
<th>Step 1. Age (continuous score)</th>
<th>Step 2. Verbal ability (vocabulary)</th>
<th>Step 3. Ego level (item average score)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R^2$</td>
<td>$F$ (1, 870)</td>
<td>$R^2$-change $F$ (2, 869)</td>
</tr>
<tr>
<td>Social evaluation$^b$</td>
<td>.034</td>
<td>30.81**</td>
<td>.000</td>
</tr>
<tr>
<td>Achievement evaluation$^b$</td>
<td>.068</td>
<td>63.23**</td>
<td>.012</td>
</tr>
<tr>
<td>Punishment$^b$</td>
<td>.060</td>
<td>55.05**</td>
<td>.013</td>
</tr>
<tr>
<td>Failure and criticism$^a$</td>
<td>.008</td>
<td>6.84*</td>
<td>.010</td>
</tr>
<tr>
<td>Physical fears</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The unknown$^a$</td>
<td>.042</td>
<td>38.23**</td>
<td>.014</td>
</tr>
<tr>
<td>Animals and small injury$^a$</td>
<td>.013</td>
<td>11.38*</td>
<td>.016</td>
</tr>
<tr>
<td>Danger and death$^a$</td>
<td>.089</td>
<td>85.09**</td>
<td>.034</td>
</tr>
<tr>
<td>Medical situations$^a$</td>
<td>.005</td>
<td>4.58</td>
<td>.004</td>
</tr>
<tr>
<td>Total Fear Score</td>
<td>.019</td>
<td>16.65**</td>
<td>.024</td>
</tr>
</tbody>
</table>

$^a$ Scales from the Fear Survey Schedule for Children – Revised (FSSC-R; Ollendick, King, & Frary, 1989).
$^b$ Subscale of the Failure and Criticism scale of the FSSC-R (see Table 1).
*p < .01; **p < .001.

### Table 5 Incremental effect of age on social and physical fears (controlling for effects of ego level and verbal ability)

<table>
<thead>
<tr>
<th>Social fears</th>
<th>step 1. Ego level (item average score)</th>
<th>Step 2. Verbal ability (vocabulary)</th>
<th>Step 3. Age (continuous score)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R^2$</td>
<td>$F$ (1, 870)</td>
<td>$R^2$-change $F$ (2, 869)</td>
</tr>
<tr>
<td>Social evaluation$^b$</td>
<td>.058</td>
<td>53.76**</td>
<td>.007</td>
</tr>
<tr>
<td>Achievement evaluation$^b$</td>
<td>.065</td>
<td>60.53**</td>
<td>.039</td>
</tr>
<tr>
<td>Punishment$^b$</td>
<td>.018</td>
<td>15.49*</td>
<td>.006</td>
</tr>
<tr>
<td>Failure and criticism$^a$</td>
<td>.021</td>
<td>18.55**</td>
<td>.023</td>
</tr>
<tr>
<td>Physical fears</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The unknown$^a$</td>
<td>.011</td>
<td>9.39*</td>
<td>.008</td>
</tr>
<tr>
<td>Animals and small injury$^a$</td>
<td>.003</td>
<td>2.79</td>
<td>.013</td>
</tr>
<tr>
<td>Danger and death$^a$</td>
<td>.044</td>
<td>39.82**</td>
<td>.016</td>
</tr>
<tr>
<td>Medical situations$^a$</td>
<td>.001</td>
<td>.71</td>
<td>.003</td>
</tr>
<tr>
<td>Total Fear Score</td>
<td>.002</td>
<td>2.11</td>
<td>.022</td>
</tr>
</tbody>
</table>

$^a$ Scales from the Fear Survey Schedule for Children – Revised (FSSC-R; Ollendick, King, & Frary, 1989).
$^b$ Subscale of the Failure and Criticism scale of the FSSC-R (see Table 1).
*p < .01; **p < .001.
rise should be due to a relatively large proportion of participants with moderately elevated levels, whereas a non-normative rise should be due to a relatively small proportion with highly elevated levels. Since fears of social evaluation and fears of achievement evaluation followed the same developmental pattern (strongly and positively related to age and ego level, with ego level being the strongest predictor), the items of both scales were combined into one scale comprising all fears of social evaluation and achievement. Standardized scores were computed for boys and girls separately (see Method for rationale). Four fear levels were then defined: no fear (z-score below −1), mild fear (z-score between −1 and 0), moderate fear (z-score between 0 and 1), and strong fear (z-score above 1).

Chi-square analyses were conducted to test the association between the four fear levels on the one hand and the three-way groupings of age and ego level on the other hand. Both associations were highly significant: the $X^2$ for the association between age and fear level was 64.71 ($p < .001$); the $X^2$ for the association between ego level and fear level was 54.88 ($p < .001$). The association between social evaluation fears and age revealed the following pattern. Of children (ages 8–11), 21.5% fell in the no fear category and 46.5% fell in the mild fear category (i.e., a majority of 68% reported mild or no fear); whereas 22.2% fell in the moderate fear category and only 9.7 fell in the strong fear category. The reverse pattern was observed in adolescents (ages 15–18), of whom only 9.3% fell in the no fear category and 28.5% fell in the mild fear category; whereas 38.8% fell in the moderate fear category and 23.4% fell in the strong fear category (i.e., a majority of 62.2% reported moderate or strong fear).

A similar pattern was observed for level of ego development. Impulsive participants are more likely to report no or mild fear (in total 72.1%), whereas relatively few reported strong fear (6.7%). In contrast, Conformist/Self-aware participants were more likely to present moderate or strong fear (in total 57.6%), whereas relatively few reported no fear (9.6%). The association between fear level and ego level is presented in Figure 2.

In sum, a majority of relatively mature participants reported at least a moderate fear of social evaluation and achievement, whereas a small minority did not report any fear. In contrast, a majority of relatively immature participants reported little or no social fear, whereas only a small majority reported strong fear. These findings showed that the average rise of social fearfulness was not due to a few adolescents with highly elevated fear levels, but was due to an overall shift of the distribution of the scores indicative of a normative increase.

**Discussion**

Several investigators have noted that the overall frequency and intensity of fears declines during late childhood and adolescence, and some have argued that this age-related decline is part of normal development (see Gullone, 2000; Marks, 1987). The current findings, however, provide only partial support for this assertion: fears concerning physical danger and of punishment decreased with age, whereas fears concerning social evaluation and achievement increased with age.

The different age trends for social-evaluative fears on the one hand and physical and punishment fears on the other were masked when all fear items were combined into one fear scale (i.e., Total Fear Score). Prior research, as well as the present study, has generally shown that Total Fear Scores computed from all

![Figure 2](image-url)  
**Figure 2** Level of ego development and the intensity of social-evaluative fears
items decline between late childhood and adolescence (e.g., Campbell & Rapee, 1994; Dong et al., 1995; Gullone & King, 1992, 1997; Spence & McCuthe, 1993). However, the Total Fear Score is more heavily weighted with the physical fears (75% of items), and is therefore more likely to decrease with age.

Likewise, the different age trends for fears of social evaluation and achievement on the one hand and fears of punishment on the other were masked when all items were combined into one social fear scale (i.e., Failure and Criticism scale of the FSSC-R). Several prior studies, as well as the current study, have shown that scores on the fear of failure and criticism scale are not related to age (e.g., Gullone et al., 2001; King et al., 1992; Ollendick et al., 1985). Apparently, the negative relationship between age and punishment fears cancels the positive relationship between age and social-evaluative fears. The developmental distinction between punishment fears and social-evaluative fears is supported by the outcome of the Principal Components Analysis of the Failure and Criticism scale of the FSSC-R. Important conceptual and developmental differences appear to be obscured by combining both sets of fears into one social fear scale.

The fears of punishment followed the same developmental course as the fears of physical danger: children ages 8–11 were significantly more concerned about punishment than were adolescents age 12–18. A parallel pattern was also observed for level of ego development: Impulsive individuals were more likely to endorse fears of punishment and of physical danger than were individuals at higher ego levels. Finally, ego level added moderately to age in the prediction of punishment and physical fears, but age was the strongest predictor of both sets of fears (i.e., age added strongly to the effect of ego level). This consistent pattern in the results suggests that punishment fears are more closely aligned with physical fears than with social-evaluative fears. The punishment fears might not be as much ‘social-evaluative’, but might be based on the fear of losing the protection of parents and teachers on whose care they depend.

As predicted, the age-related increase of social-evaluative fears was a function of socio-cognitive maturation (as measured by level of ego development): Conformist and Self-aware participants reported a greater concern with fears of social evaluation and achievement than Impulsive and Self-protective participants. Indeed, ego level maturity added significantly to the prediction of the social-evaluative fears beyond the predictive power of age, whereas age did not add significantly to the prediction of those fears beyond the predictive power of ego level. In other words, the more mature participants were more likely to report social-evaluative fears, regardless of their age.

The results furthermore indicated that the relationship between social-evaluative fears and level of ego development was not an artifact of verbal ability (as measured by vocabulary). The magnitude, and the direction, of the correlation between vocabulary and ego level scores in the present study (i.e., $r = .31$) was similar to the findings of previous studies (for a meta-analysis, see Cohn & Westenberg, 2002). The present study also showed that ego level scores demonstrated clear incremental validity after statistically removing the influence of verbal ability (as well as age).

The positive relationship between ego level maturity and social-evaluative fears suggests that a rise of certain social fears in mid-adolescence is not abnormal, but might be ‘... part and parcel of normal development’ (Ollendick & Hirshfeld-Becker, 2002, p. 44). The results at least indicated that the rise of social-evaluative fears is normative in the statistical sense. That is, the rise was not due to a minority of mature participants with relatively high fear levels, but was due to a large proportion of adolescents in the older age group having moderate to strong fears.

Progress to the Conformist/Self-aware levels includes a greater sensitivity to the interests and views of others regarding one’s own social or academic performance. This greater concern with being judged by others appears to be accompanied by a moderate level of social apprehension or fearfulness. Youngsters have to jump this hurdle without falling back to the indifferent attitude of the Self-protective ego level and without becoming too anxious about what other people might think about them. If all goes well they should come out as socially competent and confident individuals. As Loevinger (1968) noted: ‘... every stage has its weaknesses, its problems, and its paradoxes, which provide both a potential for maladjustment and a potential for growth’ (p. 169).

The literature on the prevalence of social anxiety disorders suggests that some youngsters are not able to successfully deal with this developmental challenge. As was noted earlier, social anxiety disorder is more prevalent among adolescents than it is among children (e.g., Essau et al., 1999; McGee et al., 1992), and the average age of onset appears to be in the mid-teens (American Psychiatric Association, 1994; Wittchen, Stein, & Kessler, 1999). An empirical study of the connection between social anxiety disorder and level of ego development has, however, not been conducted. Preliminary support for this connection is provided by a study of the empirical relationship between level of ego development and Overanxious Disorder (OAD) in 118 psychiatric outpatients (ages 8–18; Westenberg, Siebelink et al., 1999). A central aspect of OAD is the preoccupation with being critically evaluated and with doing well socially and at school (i.e., social-evaluative fears are paramount). As was anticipated, more mature participants (at Conformist ego level or above) were diagnosed most frequently with OAD; less mature participants (mostly at Impulsive ego level) were diagnosed most frequently with Separation Anxiety Disorder (statistically controlling for age, sex, and verbal IQ).
The emergence of a social anxiety disorder in adolescence cannot, however, be attributed solely to the Conformist/Self-aware level of socio-cognitive maturity. The ability to negotiate this developmental hurdle is determined by several different factors, such as an inhibited temperament or an overprotective parental style (see Ollendick & Hirshfeld-Becker, 2002; Velting & Albano, 2001).

It could be argued that the normative rise of social-evaluative fears in mid-adolescence might be due primarily to the fact that parents, teachers, and the society at large are likely to put greater demands on adolescents than on children. For example, children are rarely exposed to serious exams, whereas older adolescents are frequently exposed to tests of all kinds, tests that may have important implications for future success in college or on the job market. The findings of the present study are consistent with this hypothesis: social-evaluative fears were strongly and positively related to age. However, the effect of age on social fears was fully explained by the effect of ego level. Yet, environmental pressures to do well were not included in the present study. Future research needs to address this issue more systematically.

Future research also needs to determine whether increases in social-evaluative fears are also obtained by means of different methods (e.g., experimental procedures, psychophysiological techniques) and from different sources (e.g., parents, expert observers). In addition, interdisciplinary research seems needed to study the relative impact of the various developmental factors (e.g., puberty, attachment security, peer relations, socio-cognitive maturity) on the rise of social fears and the emergence of social anxiety disorder in mid-adolescence.

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A developmental analysis of social fears

495

Personality development: Theoretical, empirical, and 
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