This study sought to determine whether adolescent egocentrism is displayed during adolescence in the same patterns as when the constructs were first defined in 1967. We empirically revisited the constructs of personal fable and imaginary audience in contemporary adolescents, hypothesizing a decrease in egocentrism with increasing age. Adolescents \( N = 2,390 \) responded to a self-report measure of adolescent egocentrism. Results revealed significant interactions between age and sex for both imaginary audience and personal fable. The results deviated from the original conceptualization discussed in 1967 and supports more recent findings suggesting the existence of adolescent egocentrism in late adolescence. Implications of these findings for those who work with adolescents are discussed.

Elkind (1967) defined adolescent egocentrism to include the imaginary audience (i.e., adolescents' belief that those around them are as concerned and focused on their appearance as they themselves are) and the personal fable (i.e., the belief that the individual is special, unique, and invulnerable to harm). In Elkind's original conceptualization, these constructs were thought to emerge in early adolescence and then decline in middle adolescence (ages 15-16).

Past research has supported the earlier conceptualization that adolescent egocentrism peaks in early adolescence and then begins to decline (Elkind & Bowen, 1979). The implications of egocentrism during adolescence have been previously discussed in terms of educational settings (Muuss, 1982) and other "pressured" situations (Tice, Buder, & Baumeister, 1985). It was also noted early on that adolescent egocentrism is most certainly not born of a single dimension, but is a multi-faceted aspect of development, with different pieces being expressed at different times during the adolescent period (Muuss, 1982).

Given that many variables related to adolescent behavior may be dependent upon societal and historical conditions and the fact that imaginary audience and personal fable are mentioned in literally
every contemporary text on adolescence (Vartanian, 2000), we decided to revisit these constructs almost 40 years after the initial conceptualization. We hypothesized that both imaginary audience and personal fable would decrease with increasing age from early to late adolescence.

METHOD

Participants
The sample of 2,390 adolescents included 1,211 females and 1,179 males ($M = 15.15$ years, $SD = 2.61$ years) from 16 public middle schools, junior high schools, high schools, and three colleges (two private, one public). The school districts were chosen to represent inner city, suburban, and rural adolescent populations to provide a reasonable cross-section of the spectrum of socioeconomic strata of adolescent populations.

Materials
In an effort to measure these constructs as they were first envisioned, imaginary audience was measured using Elkind and Bowen's (1979) Imaginary Audience Scale (IAS). The IAS includes 12 items, in which adolescents consider their feelings about situations in which others may observe their appearance. The IAS consists of two subscales—the transient self and the abiding self. The transient self specifically measures adolescents' responses to potentially embarrassing situations (e.g., "... you notice a grease spot on your trousers or skirt. There is no way to borrow clothes from anyone" (Elkind & Bowen 1979, p. 40), while the abiding self measures adolescents' responses to situations in which personal information would be revealed (e.g., If you were asked to get up in front of the class and talk about your hobby" Elkind & Bowen, 1979, p. 40).

The personal fable was measured using Elkind's Personal Fable (PF) scale (D. Elkind, personal communication, July 11, 2003). The PF scale asked students to rate how true each statement was for them on a five-point Likert scale (1 = never true for me and 5 = always true for me). The PF scale also included two subscales—invulnerability and speciality. The invulnerability scale measures the degree to which adolescents believe they are immune from harm or injury (e.g., "Some kids don't worry about getting injured when they play sports"). The speciality scale measures the degree to which adolescents believe themselves to be unique from all others (e.g., "Even though other kids,
besides me, got As on their papers, I feel that the teacher liked mine best"). In addition to their responses on the IAS and PF scales, students also reported sex and age (D. Elkind, personal communication, July 11, 2003).

Procedure
All participants provided informed consent orally, and were allowed to refuse answering any part or all of the questionnaires if they so chose. Participants self-reported their levels of personal fable and imaginary audience in their school settings during class time (e.g., health and psychology classes). Participants’ responses were kept confidential and anonymous.

RESULTS

Using Steinberg’s (1999) classification for adolescent periods, adolescents were divided into early (ages 11-14), middle (ages 15-17) and late (ages 18-21) adolescent age groups. Inferential tests included 2 (sex) × 3 (age) factorial ANOVAs on the imaginary audience and personal fable total scores and subscale scores. Follow-up tests included independent sample t-tests and the use of Cohen’s d (Rosenthal & Rosnow, 1991) as a measure of effect size to control for the number of follow-up tests conducted. Significant differences reported included only those with medium or large effect sizes as defined by Cohen (Rosenthal & Rosnow, 1991).

Imaginary Audience
With respect to imaginary audience, a significant interaction between sex and age was found for the total score, $F(2, 2180) = 11.41$, $p < .001$, partial $\eta^2 = .01$ (see Figure 1). Follow-up tests revealed that middle adolescent males scored significantly lower than late adolescent males on imaginary audience total score, $t(653) = 4.96$, $p < .001$, $d = .40$. No significant differences were found on the imaginary audience total score for females, $F(2, 1044) = 1.72$, $p > .05$.

The transient self subscale also revealed a significant interaction between sex and age, $F(2, 2216) = 9.43$, $p < .001$, partial $\eta^2 = .01$ (see Figure 2). The pattern of results for the transient self subscale mirrored that of the total score with middle adolescent males scoring lower than late adolescent males on the transient self scale, $t(668) = 3.85$, $p < .001$, $d = .30$. No significant differences for females on the transient self subscale were found, $F(2, 1060) = 1.61$, $p > .05$. 

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A significant sex by age interaction was also found for the abiding self subscale of imaginary audience, $F (2, 2223) = 5.94, p < .001$, partial $\eta^2 = .01$ (see Figure 3). Just as with the total score and the transient self subscale results, follow-up tests revealed that middle adolescent males scored significantly lower than late adolescent males on the abiding self subscale, $t (664) = 4.46, p < .001, d = .35$. No significant differences were found in abiding self scores for females.

**Personal Fable**

The results for personal fable were more varied. First, a significant sex by age interaction was found for the personal fable total score, $F (2, 2301) = 10.87, p < .001$, partial $\eta^2 = .01$ (see Figure 4). Follow-up tests revealed that late adolescent females scored significantly lower than both early adolescent females, $t (645) = 4.68, p < .001, d = .38$ and middle adolescent females, $t (684) = 5.92, p < .001, d = .46$ on the personal fable total score. With respect to males, early adolescent males scored significantly lower than late adolescent males on the personal fable total score, $t (252) = 2.86, p < .01, d = .45$.

With respect to the invulnerability subscale, a significant interaction between sex and age was found, $F (2, 2313) = 9.34, p < .001$, partial $\eta^2 = .01$ (see Figure 5). In interpreting the interaction, it was found that late adolescent females scored significantly lower on the invulnerability subscale than both early adolescent females, $t (778) = 5.91, p < .001, d = .44$, and middle adolescent females, $t (685) = 6.40, p < .001, d = .50$. No significant differences were found for males on the invulnerability subscale.

For the specialty subscale, a significant interaction between sex and age was also found, $F (2, 2334) = 4.80, p < .01$, partial $\eta^2 = .004$ (see Figure 6). Follow-up tests found that both early adolescent males, $t (246) = 3.57, p < .001, d = .58$, and middle adolescent males, $t (260) = 2.69, p < .01, d = .40$, scored significantly lower than late adolescent males. No significant differences were found for females on the specialty subscale.

**DISCUSSION**

Egocentrism has been considered primarily endemic to the developmental period of adolescence, increasing during the onset of early adolescence (Elkind, 1967). Although our results differ from this original conceptualization and early research findings for the IAS (Elkind &
Bowen, 1979), these data were consistent with more recent research suggesting the existence of adolescent egocentrism in late adolescence (Peterson & Roscoe, 1991; Rycek, Stuhr, McDermott, Benker, & Swartz, 1998). These more recent findings, suggesting a possible re-emergence of egocentrism in late adolescence, suggest that egocentrism may be a powerful influence on behavior each time an individual enters into a new environmental context or dramatically new life situation. This transition is especially significant for college students as they have not only entered a new educational context but new social changes as well (i.e., leaving home, less contact with friends from high school). It has been previously suggested that this reemergence of egocentrism early during the college experience may be an effective coping mechanism during the transition to new educational and social contexts (Peterson & Roscoe, 1991; Rycek et al., 1998).

There are a number of possible social and academic implications of the reemergence of egocentrism upon entrance into college. With respect to social implications, egocentric thinking has been associated with risk-taking behavior in adolescence (Alberts, Elkind, & Ginsburg, 2007; Green, Kremar, Rubin, Walters, & Hale, 2002, Johnson & Green, 1993). It is certainly possible that first-year undergraduates with high scores on imaginary audience and personal fable might be at more risk than second- or late-year students, for a range of health compromising behaviors such as binge drinking and unprotected sexual encounters. But not all research has supported this view and the influence of egocentrism on risk-taking may apply only to some risky behaviors and not to others (Frankenberger, 2004).

From an academic perspective, faculty might also consider the influence of their college students’ egocentrism on classroom instruction. Specifically, teachers ought to be aware that first-year students may sometimes act as if they were privileged and not constrained by the rules for readings, class attendance, and handing in papers that hold for other students. In addition, what may come across as informality (Glater, 2006) or a sense of entitlement on behalf of the student, may in fact be an egocentric coping mechanism. Future research should evaluate the possible reemergence of egocentric thought across the lifespan as the individual experiences significant life changes.

REFERENCES


