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Changes in Dispositional Empathy in American College Students Over Time: A Meta-Analysis

Sara H. Konrath[1,2], Edward H. O'Brien[1], and Courtney Hsing[1]

Abstract

The current study examines changes over time in a commonly used measure of dispositional empathy. A cross-temporal meta-analysis was conducted on 72 samples of American college students who completed at least one of the four subscales (Empathic Concern, Perspective Taking, Fantasy, and Personal Distress) of the Interpersonal Reactivity Index (IRI) between 1979 and 2009 (total $N = 13{,}737$). Overall, the authors found changes in the most prototypically empathic subscales of the IRI: Empathic Concern was most sharply dropping, followed by Perspective Taking. The IRI Fantasy and Personal Distress subscales exhibited no changes over time. Additional analyses found that the declines in Perspective Taking and Empathic Concern are relatively recent phenomena and are most pronounced in samples from after 2000.

Keywords

empathy, temporal change, meta-analysis

Recent psychological research recognizes that people are inextricably linked to their social environments and to those around them. For example, people report a stronger preference for spending time with others rather than being alone and do so for a majority of their waking hours (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). Moreover, people are more likely to experience a wide variety of health problems when lonely or isolated (see Cacioppo & Patrick, 2008). However, this is a paradox of sorts: Although people cannot seem to live without one another, they also sometimes cheat and manipulate each other, are physically aggressive and verbally offensive, lie, steal, and exhibit a number of other socially deleterious tendencies.

Given the prevalence of conflicted, antisocial, and otherwise unpleasant interactions with other people, researchers have been interested in factors that promote cooperative, prosocial, and satisfying relationships. Our focus in this article is specifically on empathy. In general, empathy seems to enable people to relate to others in a way that promotes cooperation and unity rather than conflict and isolation. Thus, an examination of potential changes in empathy over time affords new insights into how and why people help and relate positively to one another. Temporal changes in empathy might help explain certain interpersonal and societal trends that suggest people today are not as empathic as previous generations.

In the current article, we use cross-temporal meta-analytic methods to examine changes over time in American college students' dispositional empathy scores. We do so by using the time-lag method, which separates the effects of birth cohort from age by analyzing samples of people of the same age at different points in time. In this study, we compare college students from the late 1970s and early 1980s to college students in the 1990s and 2000s. By studying college students at each of these time periods, we are able to collect data from people who are from the same age group but different birth cohorts. Birth cohorts can be seen as sociocultural milieus (Stewart & Healy, 1989; Twenge, 2000), in that children growing up in the 1970s in the United States were exposed to different sociocultural norms than those growing up in the 2000s, despite being physically located in the same country. The logic underlying this approach is similar to that used in cross-cultural psychology to examine similarities and differences in the self-construals, traits, and behaviors of people across different sociocultural regions of the world (e.g., Choi, Nisbett, & Norenzayan, 1999; Heine & Lehman, 1997; Markus & Kitayama, 1991), except that we instead assess differences between birth cohort groups (rather than cultures). Several studies have used this method to find birth cohort differences in traits such as anxiety, self-esteem,

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narcissism, locus of control, and sexual behavior (respectively, Twenge, 2000; Twenge & Campbell, 2001; Twenge, Konrath, Foster, Campbell, & Bushman, 2008; Twenge, Zhang, & Im, 2004; Wells & Twenge, 2005). These studies used meta-analytic methods to compare samples of college students or children who completed the same psychological questionnaires at different points in time. In the method of cross-temporal meta-analysis, researchers correlate the mean scores on a measure with the year of data collection, weighting for sample size, to assess changes over time on particular measures (e.g., Twenge, 2000).

What Is Empathy? Past research on empathy is wrought with definitional issues. Some scholars have conceptualized empathy as a *cognitive* mechanism through which people are able to imagine the internal state of someone else (e.g., Borke, 1971; Deutsch & Madle, 1975), whereas others view empathy as an *affective* construct (e.g., Batson, 1987; Miller & Eisenberg, 1988). In turn, proponents of affective theories of empathy disagree over whether people's emotions are matched directly to another's affective state (Feshbach & Roe, 1968), whether empathy is simply a manifestation of sympathy (Hoffman, 1984), or whether people empathize to reduce their own stress about another's situation (e.g., Batson & Coke, 1981). Now, along with the advent of neuroscience and the rise of interest in the mirror neuron system (see Rizzolatti & Craighero, 2004), it appears the debate over establishing a single operational definition of empathy is far from settled. However, in its most basic form, dispositional empathy can be seen as the tendency to react to other people's observed experiences (Davis, 1983c).

Measures of empathy tend to focus on either a cognitive understanding of another's states (e.g., Hogan, 1969) *or* a vicarious other-oriented emotional response to these states (e.g., Mehrabian & Epstein, 1972). However, in the current study we operationalized empathy as defined by the Davis Interpersonal Reactivity Index (IRI; Davis, 1980, 1983a, 1983c), the only personality scale that follows a *multi*dimensional theory of empathy. The IRI is a 28-item scale that consists of four different 7-item subscales, representing different components of interpersonal sensitivity. Empathic Concern (EC) measures people's other-oriented feelings of sympathy for the misfortunes of others and, as such, is a more emotional component of empathy (e.g., "I often have tender, concerned feelings for people less fortunate than me"). Perspective Taking (PT) is a more cognitive or intellectual component, measuring people's tendencies to imagine other people's points of view (e.g., "I sometimes try to understand my friends better by imagining how things look from their perspective"). The Fantasy (FS) subscale measures people's tendencies to identify imaginatively with fictional characters in books or movies (e.g., "I really get involved with the feelings of the characters in a novel"). Personal Distress (PD) may be less adaptive in that it measures more self-oriented feelings of distress during others' misfortunes (e.g., "When I see someone who badly needs help in an emergency, I go to pieces"). On average, females tend to score higher than males on each of the subscales (Davis, 1983c).

The IRI is an ideal measure of empathy to use for a cross-temporal meta-analysis. One major strength of the scale is that it assesses both cognitive and affective components of empathy, which could theoretically be changing at different rates over time. In addition, the IRI is reliable, well validated, and widely used. The scale carries substantial convergent and discriminant validity (Davis, 1994), the internal reliabilities of each subscale range from .71 to .77, and test–retest reliabilities of each subscale range from .62 to .71 (Davis, 1980). There is also high self–other agreement on IRI scores, which is demonstrated by corresponding scores between parents and adolescent participants (Cliffordson, 2001). Moreover, in one particular example of its predictive capabilities, Eisenberg et al. (2002) showed that scores on the EC subscale in a sample of 15- to 18-year-olds strongly correlated with scores on a prosociality scale measured with the same sample at ages 21 to 26.

Correlates of Dispositional Empathy. Because of its multidimensional nature, empathy as defined by Davis assesses a much wider spectrum of behavior, from prosocial to antisocial, and acts as a happy medium within the tangled web of previously established definitions and conceptualizations. In fact, Eisenberg and Miller (1987) concluded from their meta-analysis, "It is clear . . . the degree of positive association between measures of empathy and prosocial behavior varies depending on the method of measuring empathy," and furthermore, in reference to a cluster of measures that includes the Davis IRI, that "the relations [are] strongest for self-report indices" (p. 113).

Prosocial correlates. Most research on the correlates of the IRI has been conducted using self-report measures. Nonetheless, we can draw a number of meaningful conclusions, particularly regarding EC, because this is the most commonly used subscale and arguably the most prototypical conception of empathy. People scoring high in EC score higher in shyness and social anxiety but at the same time display less loneliness and fewer negative agentic traits (e.g., boasting, verbal aggression; Davis, 1983c). They are also slightly more emotionally reactive (e.g., feeling a sense of emotional vulnerability; Davis, 1983c) yet higher in self-control (Tangney, Baumeister, & Boone, 2004). Taken together, those scoring high in EC appear to be a little bit nervous around other people, but they care about being liked, and perhaps they use their self-control to defer their own gratification in lieu of others'.

Importantly, the emotional sensitivity and self-control associated with high EC translates into more prosocial attitudes and behaviors. For example, Taylor and Signal (2005) found that higher EC scores are strongly correlated with more positive views about animals as well as self-reported

vegetarian practices. However, the prosocial consequences of a high EC extend beyond the treatment of nonhuman animals: Participants who score higher on the EC subscale indicate more continuous volunteer hours per month (Unger & Thumuluri, 1997), choose to participate in experiments that will knowingly evoke feelings of sympathy and compassion (Smith, 1992), and are more likely to have returned incorrect change, let somebody ahead of them in line, carried a stranger's belongings, given money to a homeless person, looked after a friend's plant or pet, and donated to charity within the preceding 12 months (Wilhelm & Bekkers, 2010). In one of the original demonstrations of the prosocial behaviors associated with high EC scorers, Davis (1983b) found a strong correlation between those participants and the likelihood of both watching and contributing time and money to the annual Jerry Lewis muscular dystrophy telethon.

In addition, these effects appear to be specific to the EC subscale. Davis (1983a) asked participants to listen to an audiotape of someone in need and then indicate the number of hours they were willing to volunteer to help the person. For half of the participants, the appeal for help was structured in emotional terms; for the other half, it was a cognitive appeal. Davis found that the participants with a higher EC score indicated a greater number of volunteer hours, despite the type of appeal and their scores on other IRI subscales. Thus, dispositional empathy, and particularly EC, is a better predictor of a self-reported desire to volunteer than other empathic subscales or situational factors. Similarly, Davis et al. (1999) found that high EC scores were strongly correlated with people's initial willingness to be involved in situations that might require volunteerism and that this link was mediated by the expectation that the participants would feel sympathy and other positive emotions. These trends were based on the responses of a college population as well as community adults who volunteered at a local government-funded volunteering agency over a 5-year period.

Although limited to mostly self-report correlations, a few studies demonstrate behavioral prosocial implications of the IRI. By far the most salient behavioral correlate within the literature is volunteerism. For instance, volunteers for crisis and intervention help lines had significantly higher EC and PT scores than a matched nonvolunteer control group (Paterson, Reniers, & Vollm, 2009). Oswald (2003) further found that high scores on the PT subscale could reliably predict who would volunteer time to counsel working adults who were considering returning to college. Supplementing these findings, Litvack-Miller, McDougall, and Romney (1997) demonstrated the link between the IRI and volunteerism. Canadian grade-school children read a series of vignettes about people in need and indicated how they would respond in each situation. The children were then presented with a video of an actual family in need and were asked to indicate how much time and money they would donate. In both cases, the children with higher EC scores, and to a lesser extent higher scores on the PT subscale, were most likely to indicate prosocial responses and donate the most resources.

PT is also related to prosocial outcomes. For example, it is associated with low social dysfunction (e.g., shyness, loneliness, social anxiety, boasting, verbal aggression) and more other-oriented sensitivity (Davis, 1983c). Those who score high in PT are better able to match target individuals with their self-descriptions, which is a cognitive type of task (Bernstein & Davis, 1982). Intrapersonally, PT is associated with higher self-esteem and lower self-reported anxiety (Davis, 1983a). People scoring high in PT help others when they are reminded to take other people's perspectives but not necessarily in other situations (Davis, 1983a).

Those scoring high in FS are more emotionally vulnerable and more sensitive to other people's perceptions of them (e.g., public self-consciousness, other directedness; Davis, 1983c). Given that the FS subscale measures people's ability to be imaginatively transported by fictional material, it is not surprising that it does not appear to be related to prosocial behavior (e.g., Davis, 1983b, 1983c). Similarly, one would not expect to find a relationship between PD and prosocial behavior because this subscale is associated with higher social dysfunction (e.g., shyness, social anxiety, introversion), lower self-esteem, and a greater concern with what others think about the self (Davis, 1983c). In short, PD involves more self-oriented than other-focused reactions to other people's distress.

Antisocial correlates. Much of the remaining literature on the IRI highlights the negative, antisocial consequences of those who score low in empathy. Having empathy is an important factor in the motivation and ability to inhibit harmful behaviors because imagining the potential harm that one might cause deters antisocial behaviors. Studies on the antisocial characteristics of people with low empathy typically focus on a specific sample or subgroup. For instance, bullying within youth populations is negatively correlated with IRI (Ireland, 1999), and actively helping a victimized schoolmate as measured via self-report is positively correlated with IRI (Gini, Albiero, Benelli, & Altoè, 2007). In addition, low IRI scores are linked to aggressive behavior among the inebriated (Giancola, 2003), those who have committed sexual offenses (Burke, 2001), and those who have been accused of child abuse (Wiehe, 2003). A recent meta-analysis found that criminal offenders scored lower on PT than nonoffenders (Jolliffe & Farrington, 2004). However, no relationship was found between EC and criminal offending (Jolliffe & Farrington, 2004). On the whole, the correlation between low empathy and violent behavior is so strong that Bovasso, Alterman, Cacciola, and Rutherford (2002) strikingly concluded that "violent crime may be predicted by traits, such as empathy . . . over and above the assessment of prior antisocial behavior" (p. 371).

Summary of correlates. For nearly three decades, the Davis IRI has been widely used as a measure of four distinct

aspects of empathy: Empathic Concern, Personal Distress, Fantasy, and Perspective Taking (Carey, Fox, & Spraggins, 1988; Davis, 1980). Research on the correlates of the IRI has demonstrated higher prosociality and lower antisociality. EC and, to some extent, PT appear to be the most related factors in predicting prosocial and antisocial outcomes, which is not surprising considering that they are more prototypically representative of popular conceptions of empathy.

Hypothesis. In this study we examine changes in scores on the IRI in American college students over time. Previous empirical work has led us to hypothesize that there would be a decline in dispositional empathy in recent years.

One especially relevant program of research finds increasing levels of narcissism in American college students from the mid-1980s until late into the first decade of the new millennium, using similar cross-temporal methods as in the current study (Twenge et al., 2008; Twenge & Foster, 2008, 2010).[1] Dispositional narcissists have inflated self-views, especially on agentic traits such as power and intelligence (e.g., Campbell, Rudich, & Sedikides, 2002). Although narcissists are extraverted, they think of others primarily in terms of their utility rather than as interdependent relationship partners (Campbell, 1999). When narcissists' egos are threatened by rejection or an insult, they tend to aggress against the source of the threat (e.g., Bushman & Baumeister, 1998; Konrath, Bushman, & Campbell, 2006).

Given the correlates of empathy, one can logically predict that narcissism and empathy would be negatively related, and indeed several studies confirm this relationship (e.g., Watson, Biderman, & Sawrie, 1994; Watson, Grisham, Trotter, & Biderman, 1984; Watson & Morris, 1991). The most consistent finding in these studies is a negative correlation between the most problematic scales of narcissism (i.e., exploitativeness and entitlement) and the most desirable scales of the IRI (i.e., EC and PT). In other words, people scoring low in EC and PT are especially antisocial.

Other societal changes related to rising narcissism also lead us to predict that empathy might be declining. For example, individualism (Twenge, 2006), self-esteem (Twenge & Campbell, 2001), positive self-views (Twenge & Campbell, 2008), and agentic traits (Twenge, 1997) have all increased over time, and individualistic individuals are by definition more concerned with their own success and well-being than those of others (see Fukuyama, 1999; Myers, 2001). Similarly, materialistic values are increasing over time, particularly within the United States and among young adults (Schor, 2004). Not surprisingly, materialism is related to less prosocial behavior and weaker relationships with other people (Kasser & Ryan, 1993; Vohs, Mead, & Goode, 2006). In addition, more Americans live alone now than ever before, and social isolation is linked to lower prosocial behavior, which is a major facet of empathy (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007).

This growing self-interest is further reflected by the meteoric rise in popularity of social networking sites such as MySpace and Twitter, by which people can broadcast their own personal information, pictures, and opinions to the online world. A primary example of the degree to which these portals allow users to promote themselves is demonstrated by Facebook's "Doppelganger Week" (February 1–7, 2010), when users were instructed to change their profile pictures to celebrities they think they resemble. Facebook even provided users with a helpful application that would match their picture to a familiar celebrity if none came to mind. This is just one example of the ways in which people today can lionize their own lives and, as a result, potentially isolate themselves from reality and actual social connections. Social affiliation and supportive social networks involve high levels of reciprocity and emotional concern (Lin & Peek, 1999) and require the sharing of positive, communal emotions such as sympathy, appreciation, and affection (de Vries, 1996; Durkheim, 1897/1951). A subsequent reduction in empathy is consistent with these trends, as younger people more frequently remove themselves from deep interpersonal social situations and become immersed in isolated online environments. These physically distant online environments could functionally create a buffer between individuals, which makes it easier to ignore others' pain or even at times inflict pain on others (e.g., Milgram, 1974).

Although societal changes seem to clearly suggest that empathy is declining, other work on empathy across people of different ages presents a more complicated portrait. One study specifically measured empathy across different age groups in an attempt to establish developmental trends in empathy, which is different from cohort comparisons like ours but perhaps still relevant. Schieman and Van Gundy (2000) found a negative correlation in empathy scores (as measured by an adapted scale partially modeled after the Davis IRI) extending from their youngest (22 years old) to their oldest (92 years old) participants (data collected in 1981). As a result, they suggested that average empathy scores are lower in older age groups than in younger age groups. The authors explained this finding by citing the variety of personal and social conditions that are experienced differently by older individuals, such as widowhood, retirement, and physical impairment, which might mediate the relationship between age and empathy. Nevertheless, because of the cross-sectional correlational design, we are unsure whether this difference might actually reflect developmental changes in empathy, that is, that people become less empathic over time. It could also reflect cohort changes in empathy, but unfortunately the cohorts they examined are outside of the time frames examined in the current study (their sample would have been in college anywhere from 1909 to 1979, a time frame that does not overlap with ours). It is intriguing Schieman and Van Gundy found that those born in the late-1950s have higher empathy scores than

those born in the late-1880s, and this certainly warrants future research that examines longer term trends and changes in empathy over time.

Related work tracked longitudinal changes in empathy over time but on a smaller scale. For example, Bellini and Shea (2005) found significant decreases in EC and PT among a longitudinal sample of medical interns from the beginning of their internships (2000) to completion 3 years later (2003). In a recent real-world display of this finding, a medical student at Stony Brook University Medical Center in the United States was photographed smiling and giving a thumbs-up over a cadaver, a picture that was incidentally later posted on Facebook (Einiger, 2010).

Taken together, changes in both broad and immediate environments can affect people's empathic tendencies, and thus empathy rises and falls with particular societal and situational changes. Thus, an examination of potential changes in dispositional empathy is warranted, and we have provided numerous reasons to specifically hypothesize that empathy has declined recent years.

An Alternative Hypothesis? Although psychological evidence points to potential decreases in dispositional empathy over time, three primary alternative theorists suggest a possible increase in empathic other-focus. Here, we address each claim.

First, the generational theorists Howe and Strauss (1993, 2000; Strauss & Howe, 1991), described the "Millennials"—people who were in college from the early 2000s to late 2010s (sometimes called "GenY")—as outer fixated, group oriented, and civically responsible. Howe and Strauss (2000) concluded that this cohort is cooperative rather than self-absorbed, suggesting that "individualism and the search for inner fulfillment are all the rage for many Boomer adults, but less so for their kids, [who are] not as eager to grow up putting self ahead of community the way their parents did" (p. 237). However, their argument is not based on empirical data.

Second, in the book *Generation We*, Greenberg and Weber (2008) argued that these Millennials are a more socially responsible generation than others coming before them. This conclusion is based on a survey that the authors commissioned that included 2,000 people born between those years. The major flaw with the survey in terms of its ability to help us understand the Millennial generation is that it did not include a comparison sample from a previous period or even a comparison sample of older adults. It simply asked young people to compare themselves to earlier generations of Americans, and not surprisingly they describe themselves in positive terms. For example, 90% of the respondents agreed that their generation is "set apart" from previous generations, and many of their other responses convey a similarly individualistic tone. In terms of actual data, the Millennials reported values that reflect high individualism, low authoritarianism, and high political interest.

However, these values are not necessarily equated with empathy. In fact, feeling unique and special is correlated with narcissism, which is linked to less empathy (Watson et al., 1984), and being antiauthoritarian or politically engaged does not necessarily mean that one will take others' perspectives or feel empathic concern for them. (A second flaw is that no information is given on how the sample was recruited and whether it was intended to be representative. Because we similarly do not claim that our sample of college students represents the American population in general, this is not our major critique, but it deserves mentioning.)

Third, Rifkin (2010) suggested the opposite of our hypothesis: Today's young generation is poised to express more empathy than previous generations. However, Rifkin did not base his conclusion on psychological research but rather on broad societal generalizations from history, philosophy, literature, and economics.

Overview. In this article, we conduct a cross-temporal meta-analysis of American college students' responses on the IRI. This analysis examines the correlation between the four IRI subscale mean scores and the year in which the data were collected, showing how levels of EC, PT, FS, and PD have changed since the early 1980s. The issue of changing college populations is an important concern for studies that examine college student samples across time. However, college populations have not changed too much on important demographic variables. For example, the socioeconomic status of college students has remained quite stable over time. The median family income of college students, when adjusted for inflation, did not change by more than $3,000 between 1985 and 2008 (U.S. Bureau of the Census, 2008a). The racial composition of college student samples has also changed only slightly over this period, with the racial makeup of college students unfortunately remaining overwhelmingly White. African American students earned 6% of bachelor's degrees in 1985 and in 2007 earned about 10%; Asian Americans increased from 3% to 7%, and Hispanic Americans increased from 3% to 8% (U.S. Bureau of the Census, 2007). There were also similar percentages of women enrolled in college during this time period: Of college students, 53% were female in 1980 compared to 55% in 2008 (U.S. Bureau of the Census, 2008b). Overall, demographic changes in college student samples have been minimal during the time period covered by this study. In addition, four previous meta-analyses found very similar patterns of birth cohort changes in college student *and* child samples (Twenge, 2000, 2001; Twenge & Im, 2007; Twenge et al., 2004). Because child samples are not as selective as college samples and do not experience enrollment shifts with time, the similar results suggest that the small changes in the composition of college populations are not likely significant confounds in birth cohort analyses.

Method

Literature Search. We searched for articles that cited the original sources of the IRI (Davis, 1980, 1983c) using the Web of

Knowledge citation index. The Web of Knowledge is a database that includes virtually all journals in the social and behavioral sciences, biological and physical sciences, and medicine. We also included two unpublished honors theses that were available online, three unpublished sets of means obtained from Mark Davis, two unpublished dissertations, and two unpublished data sets from our own research. Included data sources are marked with an asterisk in the references section.

Inclusion Criteria. To be included in our analysis, a study had to report the sum or mean of at least one unaltered (7-item) IRI subscale and meet the following five criteria: (a) participants were undergraduates at conventional 4-year institutions (e.g., not 2-year colleges or military academies), (b) participants were attending college in the United States, (c) participants were not selected for any criteria (e.g., not chosen for scoring high or low on the IRI or another scale, not clients at a counseling center), (d) on the rare occasions in which random assignment occurred before IRI measurement, the experimental condition did not affect IRI scores, and (e) participants responded to IRI items using a 5-point Likert-type scale, which was essential to ensure comparability of the samples over time. Although Davis (1980, 1983c) originally reported that participants answered using a 0 to 4 scale, most researchers use a scale that ranges from 1 to 5. Of all 72 eligible samples using the first four above criteria, only 18 since the original IRI article was published used a 0 to 4 scale, whereas 54 used a 1 to 5 scale.[2] Thus, when authors used a 0 to 4 scale, we transposed the data to a 1 to 5 scale by adding 1 to each of the means. Authors typically reported means for the subscales, but when sums were presented, we divided the means and standard deviations by 7, the number of items in each IRI subscale. We did not include means if they collapsed across more than one subscale because this made it impossible to determine the independent effect of each subscale. When email addresses could be located, we emailed the authors of published articles that met all of the criteria outlined above but did not report means (or reported collapsed means). Of the 72 final samples, 15 were collected this way.

To estimate the year of data collection, we used the following procedure: (a) if the year of data collection was mentioned in the article or by the author, we included it; (b) if the article reported the original date that the article was received, we used this year as the estimated data collection year; (c) if the article reported only the final date that the article was accepted, we subtracted this year by 1, for publication time; (d) if the article reported that the data were presented at a conference, we used the year of the conference as the estimated date of data collection; (e) otherwise, the year of data collection was coded as 2 years prior to publication, as in previous meta-analyses (e.g., Oliver & Hyde, 1993; Twenge et al., 2008).

The final sample consisted of 72 samples that included at least one of the IRI subscales, for a total of 13,737 college students (approximately 63.1% female and 69.0% Caucasian, with a mean age of 20.27)

Data Analysis Strategy. We examined changes in IRI subscale scores over time by correlating mean scores with the year of data collection. As in previous cross-temporal meta-analyses, means were weighted by the sample size of each study to provide better estimates of the population mean. We performed our analyses using SPSS, and the betas reported are standardized to allow for easier interpretation.

To calculate the magnitude of changes in empathy scores over time, we used the regression equations and the averaged standard deviation of the individual samples, when they were available. To compute the mean scores for a specific year (e.g., 2008), we used the regression equation from the statistical output, which follows the algebraic formula $y = Bx + C$, where B = the unstandardized regression coefficient, x = the year, C = the regression constant or intercept, and y = the predicted mean IRI score. This formula yielded the position of the regression line (the mean IRI subscale score on the y-axis) for particular years. We obtained the average standard deviation by averaging the within-sample standard deviations reported in the data sources. This method avoids the ecological fallacy, also known as alerting correlations (Rosenthal, Rosnow, & Rubin, 2000). The ecological fallacy occurs when the magnitude of change is calculated using the variation in mean scores rather than the variation within a population of individuals. This exaggerates the magnitude of the effect because mean scores do not differ as much as individual scores. The method used here, in contrast, uses the standard deviation of the individual studies to capture the variance of the scale among a population of individuals.

Results

Overall, American college students scored lower on EC and PT between the 1979 and 2009 (see Figures 1 and 2). There is a significant negative correlation between year of data collection and EC ($\beta = -.38$, $p = .002$, $k = 66$) and PT ($\beta = -.27$, $p = .03$, $k = 64$) when weighted by sample size.[3] There were no significant changes in either the FS subscale ($\beta = -.19$, $p = .26$, $k = 37$) or PD ($\beta = .09$, $p = .55$, $k = 46$). Thus, more recent generations of college students are reporting less EC and PT, which are the most central components of empathy.

We calculated effect sizes by calculating the difference between the average scores for the earliest and latest year in our sample, taking into consideration the average standard deviation for each IRI subscale. For the EC subscale, the regression equation (EC mean = $-0.0140 \times$ year + 31.771) yields a score of 4.06 for 1979 and 3.64 for 2009. Considering the average EC standard deviation of 0.6508, there was a drop of 0.65 standard deviations over time, which is a medium to large effect size (medium = 0.50 and large = 0.80) by Cohen's (1977)

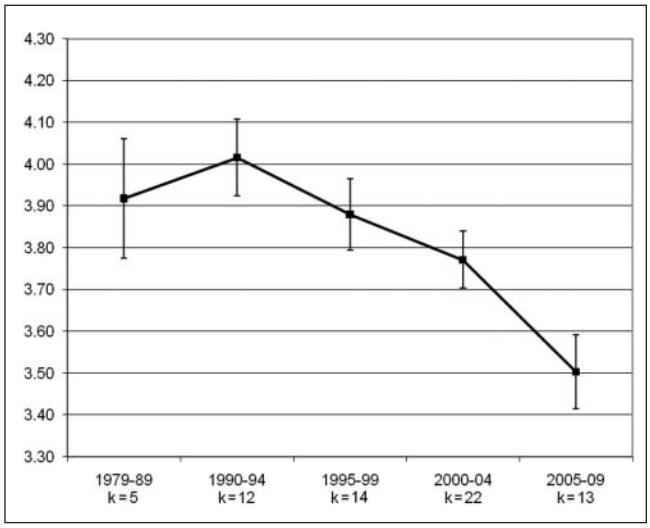

Figure 1. College students' Empathic Concern scores by period
Note: Capped vertical bars denote ± 1 *SE*.

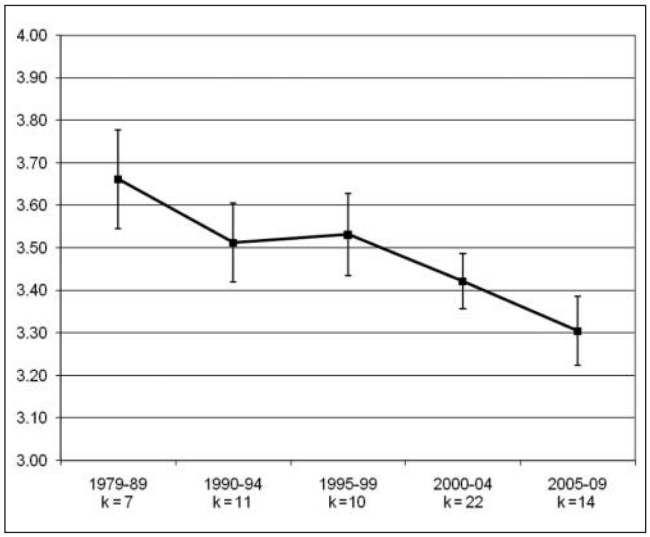

Figure 2. College students' Perspective Taking scores by period
Note: Capped vertical bars denote ± 1 *SE*.

guidelines. For the PT subscale, the regression equation (PT mean = –0.0099 × year + 23.349) yields a score of 3.66 for 1979 and 3.36 for 2009. The average standard deviation reported in the individual PT samples (from the data we collected) is 0.6786. Thus, PT scores decreased 0.44 standard deviations from 1979 to 2009. This is a small to medium effect size (small = 0.20 and medium = 0.50) by Cohen's guidelines. (The effect sizes for FS and PD are $d = 0.17$ and $d = –0.21$, respectively.)

Converting the changes in EC and PT to percentile scores is also informative. If the average student in 1979 scored at the 50th percentile of the distribution of EC or PT, the average student in 2009 scored at the 26th percentile of EC and the 33rd percentile of PT (assuming a normal curve). In other words, between two thirds and three quarters of recent college students are below the 1979 PT and EC means, respectively. This represents a 48% decrease in EC (26 out of 100 in 2009 vs. 50 out of 100 in 1979) and a 34% decrease in PT (33 out of 100 in 2009 vs. 50 out of 100 in 1979).

Gender and Ethnic Background. Women tend to score higher than men on each of the four subscales of the IRI (Davis, 1980), so there may be interesting gender differences in how empathy is changing over time. Unfortunately, means were presented separately by gender in only 14 of the 72 samples, making it impossible to examine differences in men's versus women's scores over time. When means were presented separately by gender, we calculated the average score for participants, weighting by the number of males and females.

Of the 72 samples, 69 included the number of males and female participants, thus allowing us to examine whether our effect changes when controlling for the percentage of the sample that was male (range = 0% to 100%, $M = 36.9\%$). We first looked for effects of gender proportion on empathy by regressing the percentage of male participants onto each IRI subscale (weighting for number of participants) and found no effects of percentage male on EC ($\beta = –.17$, $p = .19$, $k = 64$), PT ($\beta = –.14$, $p = .28$, $k = 62$), or FS ($\beta = –.17$, $p = .32$, $k = 36$), although samples with higher percentages of male participants had lower PD scores overall ($\beta = –.34$, $p = .02$, $k = 44$). We next examined the effect of year of data collection on each IRI subscale when controlling for percentage male. Our results remain similar as in the original analysis: EC ($\beta = –.43$, $p < .001$, $k = 64$, $d = 0.75$), PT ($\beta = –.31$, $p = .02$, $k = 62$, $d = 0.51$), FS ($\beta = –.21$, $p = .23$, $k = 36$, $d = 0.19$), PD ($\beta = .009$, $p = .96$, $k = 44$, $d = –0.02$).

Unfortunately, only 36 of the 72 samples reported the ethnicity of the participants ($M = 69.0\%$ Caucasian), which makes it not viable to reliably examine the effect of year of data collection on each IRI subscale. However, just for the sake of reporting the data, we did find that the samples with a higher percentage of Caucasian participants had lower EC ($\beta = –.44$, $p = .009$, $k = 34$), PT ($\beta = –.36$, $p = .04$, $k = 33$), and PD scores ($\beta = –.51$, $p = .02$, $k = 21$). There was no relationship between the percentage of Caucasian participants and FS scores ($\beta = –.27$, $p = .29$, $k = 17$).

Publication Status. We next analyzed the data excluding the nine unpublished samples (including two from our own lab) and found nearly identical results. There were similar declines in EC ($\beta = –.40$, $p = .002$, $k = 58$, $d = 0.71$) and PT ($\beta = –.27$, $p = .04$, $k = 55$, $d = 0.47$) and again no changes in FS ($\beta = –.29$, $p = .13$, $k = 30$, $d = 0.27$) or PD over time ($\beta = .09$, $p = .61$, $k = 39$, $d = –0.20$).

Economic Variables. It is possible that declines in empathy can be explained by parallel changes in economic variables over time. There is evidence, for example, that being primed with money-related concepts leads to less helping behavior (Vohs et al., 2006). Thus, in times of greater economic prosperity people may be less empathic. We therefore tested whether observed changes in empathy over time would remain after controlling for measures of general economic health. We collected national statistics on annual average unemployment rate (civilian labor force, age 16 or older) and annual average inflation from 1979 through 2009 (U.S. Bureau of Labor Statistics, 2009a; 2009b). Overall, unemployment significantly declined from 1979 to 2009 ($\beta = -.30$, $p = .01$), whereas inflation has also been declining ($\beta = -.49$, $p < .001$), suggesting increasing economic prosperity from the late 1970s until the late 2000s, despite the economic downturn in 2008–2009. When examining the effect of unemployment and inflation on each of the IRI subscales, we find no significant relationships ($ps > .10$).

Importantly though, even when controlling for both of these variables simultaneously, EC ($\beta = -.75$, $p < .001$, $k = 66$, $d = 1.29$) and PT ($\beta = -.47$, $p = .03$., $k = 64$, $d = 0.78$) still declined significantly, whereas FS ($\beta = -.40$, $p = .17$, $k = 37$, $d = 0.36$) and PD ($\beta = -.03$, $p = .91$, $k = 46$, $d = 0.07$) remained unchanged over time.

Time Period. As there were only seven samples collected before 1990, we also ran the regression analysis for samples collected from 1990 to 2009. The results were similar. There remained a negative correlation between year of data collection and EC ($\beta = -.50$, $p < .001$, $k = 61$, $d = 0.95$) and PT ($\beta = -.24$, $p = .075$, $k = 57$, $d = 0.40$). FS ($\beta = -.24$, $p = .18$, $k = 32$, $d = 0.26$) and PD remained nonsignificant ($\beta = -.06$, $p = .73$, $k = 41$, $d = 0.14$). We next split our data set into two time periods to examine whether the decreases in empathy were specific to more recent time periods. When the analysis was restricted to the years 1979 to 1999, we no longer found changes in any of the IRI subscales: EC ($\beta = .16$, $p = .43$, $k = 26$, $d = -0.12$), PT ($\beta = -.11$, $p = .59$, $k = 26$, $d = 0.13$), FS ($\beta = .22$, $p = .37$, $k = 18$, $d = -0.10$), and PD ($\beta = .09$, $p = .71$, $k = 21$, $d = -0.09$). When examining changes in the IRI between 2000 and 2009, however, we found that the declines were most pronounced for EC ($\beta = -.44$, $p = .004$, $k = 40$, $d = 0.83$) and PT ($\beta = -.31$, $p = .06$, $k = 38$, $d = 0.55$). The changes in FS ($\beta = -.16$, $p = .52$, $k = 19$, $d = 0.21$) and PD ($\beta = -.28$, $p = .19$, $k = 24$, $d = 0.82$) were again nonsignificant. Taken together, this analysis suggests that empathy has been decreasing in college students primarily since 2000.

Discussion

A meta-analysis of 72 samples of American college students found a decrease in EC and PT, especially in the past decade. Compared to college students in the late 1970s and early 1980s, college students today are less likely to agree with statements such as "I often have tender, concerned feelings for people less fortunate than me" (EC) and "I sometimes try to understand my friends better by imagining how things look from their perspective" (PT).

The change in the Likert-type scale points in EC and PT between the late 1970s and 2009 is admittedly minor (i.e., about one third of a scale point, when combining the two subscales) and still leaves today's college student around the midpoint in these traits. However, the effect sizes are large enough that it may foreshadow future trends in empathy. Consider that the effect sizes were much larger than the effect of violent video games on aggression (Anderson & Bushman, 2001) and larger than the effect size for increases in narcissism over time (Twenge et al., 2008).

The changes in empathy were limited to the subscales (EC and PT) that have been shown to be associated with prosocial and antisocial behaviors in past research. The fact that PD remained unchanged over time is conceptually consistent with evidence suggesting an increase in self-focused traits such as narcissism (Twenge et al., 2008) and agency (Twenge, 1997). Importantly, this study provides evidence for a decrease in *other-focused* traits over time with the finding that EC and PT have significantly decreased. Unlike past work showing that the change in narcissism steadily increased over time, we found that decline in empathy has largely occurred after 2000, with relative stability before that.

Why Is Empathy Declining? The relationship between personality and culture is dynamic, with societal changes affecting empathy and changes in empathy feeding back into societal beliefs and norms. Our data cannot directly speak to the causes of the observed decline in empathy over time, but we can speculate on parallel trends in society that may be related. It is particularly important to speculate why these changes are most apparent after 2000.

Behaviors and attitudes consistent with a decline in empathy. Some of the correlates of empathy are also changing in step with it, although we cannot know for certain whether these changes are directly tied to the observed changes in empathy. As discussed previously, narcissism, which is negatively correlated with empathy, has been rising in American college students over a similar time period (Twenge et al., 2008). Behaviors and attitudes have also shifted in a direction that may be consistent with declines in empathy. For example, in a 2006 survey, 81% of 18- to 25-year-olds said that getting rich was among their generation's most important goals; 64% named it as the most important goal of all. In contrast, only 30% chose helping others who need help (Pew Research Center, 2007). Indeed, critics of the current generation of young adults have given them a variety of derogatory nicknames, ranging from "Generation Me" (Twenge, 2006) to the "Look At Me" generation (Mallan, 2009). Their overall message has been consistent: Young adults today compose one of the most self-concerned, competitive, confident, and individualistic cohorts in recent history.

Not surprisingly, this growing emphasis on the self has also come with a decreased emphasis on others. In one survey, more than 90% of American adults reported it was important to promote volunteerism, yet given the choice, more than half of the sample chose reading, watching television, and visiting in-laws over volunteering for or donating to charity (Kelton Research, 2007). Similarly, young adults from 18 to 25 (precisely the age range of most college students) consistently give the least amount of money to charity among all age groups (Gallup, 2006), giving less than 1.5% of their after-tax incomes in 2005 alone (U.S. Bureau of Labor Statistics, 2005). Another study found that only 3 in 10 young adults donated to church within a given year, whereas the percentage of individuals in other demographics who donated was double that, even when adjusting for relative income (Generous Giving, 2009). Perhaps these trends reflect the link between high empathy and low charitable giving as originally reported by Davis (1983c). Indeed, volunteerism and charitable giving are consistently low among young adults (U.S. Bureau of Labor Statistics, 2005; 2009c) and have decreased significantly throughout the 2000s (Philanthropic Giving Index, 2008; also see Helms & Marcelo, 2007), as would be predicted by a corresponding decline in empathy. However, these statistics related to charity over time might certainly be conflated with economic hardship. To try to remedy these outstanding issues, we tested whether the observed changes in empathy over time would remain after controlling for some measure of general economic health and found that they did.

Increases in violence and bullying. Aside from volunteerism and charitable donations, other societal trends support the claim that empathy is declining. For example, violent and aggressive acts significantly increased from the early 1980s to the mid-1990s among American college students who were self-reported moderate or heavy drinkers (Engs & Hanson, 1994). Binge drinking, driving while intoxicated, and accidental alcohol-related deaths have all shown comparable increases from 1998 to 2006; moreover, the number of alcohol-related physical assaults committed by college students has, at the very least, remained constant since then (National Institute on Alcohol Abuse and Alcoholism, 2007). Taken together, these trends may reflect Giancola's (2003) finding that those who score low on the Davis IRI are more likely to exhibit alcohol-related aggression if empathy is in fact declining among American college students. Statistics on violence among younger people reveal similar patterns; bullying is still quite prevalent in schools, with recent dramatic increases in bullying committed by females (e.g., Berger & Rodkin, 2009). Given the negative correlation between the IRI and bullying (Ireland, 1999) along with the well-established gender divide with females consistently exhibiting greater empathy (e.g., Batson et al., 1996; Davis, 1983c; Klein & Hodges, 2001; Macaskill, Maltby, & Day, 2002; Rueckert & Naybar, 2008), this rise in female bullying may be a consequence of empathy being on a significant decline.

Changes in media and technology. Media consumption appears to be increasingly popular as technological developments continue to advance. Most obvious is the explosion of "social" media. Friendster was developed in 2002 (Lapinski, 2006), MySpace in 2003 (Lapinski, 2006), Facebook in 2004 (Ellison, Steinfeld, & Lampe, 2006), YouTube in 2005 (Gueorguieva, 2007), and Twitter in 2006 (Lenhart & Fox, 2009). In turn, almost 50% of American Internet users now have online social profiles (Arbitron, 2010). According to one report, time spent social networking is up 82% from previous years as of 2009 (Whitney, 2010). Similarly, cell phone use has risen dramatically: The average American teen now sends and receives around 1,500 text messages per month, and nearly all teens use their phones for functions other than talking, such as playing games and listening to music (Pew Research Center, 2009). Such technology is easy and pervasive: More than 100 million people access Facebook with their cell phones (Media Literacy Clearinghouse, 2010), and more Americans now than ever before report using television and the Internet simultaneously (Nielsen, 2009). Moreover, 29.9% of television-owning households in the United States now contain at least four televisions (Reisinger, 2010), and television viewing recently reached an all-time high (Media Literacy Clearinghouse, 2010). Indeed, a multiyear research study revealed that the average American is exposed to a 350% increase in total information outside of work than the average amount they experienced only 30 years ago (Bohn & Short, 2009).

As a result, we speculate that one likely contributor to declining empathy is the rising prominence of personal technology and media use in everyday life. Clearly, these changes have fundamentally affected the lives of everyone who has access to them. With so much time spent interacting with others *online* rather than in reality, interpersonal dynamics such as empathy might certainly be altered. For example, perhaps it is easier to establish friends and relationships online, but these skills might not translate into smooth social relations in real life. There have been significant declines in the number of organizations and meetings people are involved in as well as in the number of average family dinners and friendly visits (Putnam, 2000; Putnam & Feldstein, 2004). Indeed, people today have a significantly lower number of close others to whom they can express their private thoughts and feelings (McPherson, Smith-Lovin, & Brashears, 2006). Alternatively, the ease and speed of such technology may lead people to become more readily frustrated or bored when things do not go as planned (e.g., O'Brien, Anastasio, & Bushman, 2010), resulting in less empathic interactions. Furthermore, people simply might not have time to reach out to others and express empathy in a world filled with rampant technology revolving around personal needs and self-expression.

The *content* of modern, post-2000 media might also influence empathy. For example, the rise of reality television might provide less than empathic role models for viewers. Reality programming exploded with *Survivor* starting in 2000 (Haralovich & Trosset, 2004) and *American Idol*

starting in 2002 (J. Lee, 2009). Both shows revolve around single winners, multiple losers, aggressive characters, and rugged competition. Similarly, reality programming often depicts characters with unfettered narcissism (Young & Pinsky, 2006). Since then the number of programs and the ratings of these programs have grown, and they consistently dominate the television industry (Murray & Ouellette, 2008; Nabi, Biely, Morgan, & Stitt, 2003). As a result, narcissistic reality television stars are probably less empathic role models for young adults than those in previous generations, who might have modeled less narcissistic figures such as parents (e.g., Hoffman & Saltzstein, 1967). Overall, the agentic and narcissistic qualities found in modern media seem consistent with decreasing empathy.

In addition, exposure to media and technology may desensitize people to the pain of others if people are constantly bombarded with reports of violence, war, terrorism, and so on (e.g., Bushman & Anderson, 2009). In turn, the content of media—from news reports to video games to television in general—contains an increasing amount of violent coverage (Media Awareness Network, 2010). From this perspective, a decline in empathy seems understandable. Another by-product of these trends might be increased feelings of personal threat because of exposure to media violence, resulting in unrealistic fears of crime and terrorism. Perhaps more prominent public acts of violence, such as those from September 11, 2001, further enhance biases against the outside world. Accordingly, this increase in fear might lead people to be less likely to reach out to others and express empathy (e.g., Altheide, 2009).

In short, although personal technology and media use have exploded over the past decade, their potential negative interpersonal effects—such as leading people to care more about themselves and to interact less with real others—might also cause a decrease in empathy.

Changing parenting and family practices. Surprisingly, there does not appear to be direct correlations between parental empathy and child empathy (Strayer & Roberts, 2004). Instead, links between parental and child empathy are mediated by a number of factors. Parents who promote empathy development in their children are low in controlling punishment styles (e.g., Krevans & Gibbs, 1996; Strayer & Roberts, 2004) and high in warmth and responsiveness (e.g., Barnett, 1987; Davidov & Grusec, 2006; Kanat-Maymon & Assor, 2010; W. L. Roberts, 1999; Strayer & Roberts, 2004; Zahn-Waxler, Radke-Yarrow, & King, 1979) and other-oriented punishment strategies (e.g., "imagine how he must feel"; Krevans & Gibbs, 1996). They also promote children's emotional expressiveness (e.g., Strayer & Roberts, 2004). A longitudinal study examining which parental attitudes and behaviors predicted empathy 26 years later found that empathy was higher in adults if their fathers were involved in child care, their mothers were tolerant of their dependent behavior, their mothers inhibited their aggression when they were children, and their mothers were satisfied with their maternal roles.

One way to think of the trends in empathy involves possible generational changes in parenting abilities and styles. The average age of first-time mothers in 1985 was 24 (Mathews & Hamilton, 2009), meaning that new parents of the mid-1980s were the college students of the early 1980s (i.e., the ones who began a trend of rising narcissism; Twenge et al., 2008). Twenty years later, their children were graduating college and exhibiting higher narcissism (Twenge et al., 2008) and the declines in empathy found in the current study. Taken together, the literature suggests that one potential cause of the recent decline in empathy scores might be changes in parenting styles. Perhaps parents have become more controlling and less warm and responsive, less focused on teaching children to imagine others' feelings, less willing to promote their children's emotional expressiveness, less tolerant of dependent behavior, more unhappy with the sacrifice that parenting requires, and more accepting of their children's aggression. What kind of parents might fit most of these characteristics? This is speculative, but the list of characteristics reads like a checklist for narcissism, so it is possible that as parents are becoming more narcissistic, their children are, in turn, becoming less empathic.

A related contributor might be shrinking family sizes over time (U.S. Bureau of the Census, 2009). For example, in the 1960s families with children had an average of 2.39 children, but this dropped to 1.85 in the 1980s, remaining relatively stable since then. Students entering college in the late 1970s and early 1980s (the beginning time point of our sample) were born in the 1960s, and those entering college in the early 2000s were born in the early 1980s. Thus, one possible explanation for the decline of dispositional empathy over time might be that children are less likely to learn important empathy-related skills in early home environments. Siblings can help children learn everyday empathy skills through intensive daily practice with managing conflicts and sharing (Tucker, Updegraff, McHale, & Crouter, 1999). Moreover, children may be occupied with technology (as noted previously; e.g., Bohn & Short, 2009) and spend more time in front of the television or computer and less quality time with family members, resulting in even fewer opportunities for empathy development.

Increasing expectations of success. Finally, we speculate that increased expectations of success, particularly for high school and college students, might be contributing to lower empathy. Standards for college admissions have become more rigorous, leading to record numbers of rejected applications (Leroux, 2008). This might also be a reflection of the fact that more young Americans today apply to college and compete for similar jobs on graduation than ever before (Tyre, 2008). Because social psychological research has demonstrated that people are substantially less likely to help when they are in a hurry (Darley & Batson, 1973), it is possible that people are becoming less empathic because they are feeling too busy on their paths to success. As young people are pressured to focus more single-mindedly on their own

personal achievement to succeed, empathizing with others might decline. In fact, empathy might actually be a *detriment* to individual success in that other people, including friends, might now be seen as competitors. Although purely speculative, it might even be socially acceptable to *not* express empathy because showing empathy might suggest that one is not as capable of career success (i.e., one is "too soft").

Similarly, narcissism is linked with a promotion focus that revolves around personal achievement and attaining success (Konrath, O'Brien, & Bushman, 2010). In a system of competition and success like that built into American colleges (where students display high and rising narcissism; Twenge & Foster, 2008), perhaps narcissistic behavior is manifested in subtle ways, such as by cheating, lying, and manipulating others for personal gain. These behaviors would all be in line with a strong achievement motivation and a corresponding decline in empathy toward others.

Counterexamples. Other trends are inconsistent with a decline in empathy, however. For example, significantly more high school students volunteer their time to help others (Bachman, Johnston, & O'Malley, 2006), although volunteer rates might be increasing because many high schools began requiring community service for graduation over this same time (Howe & Strauss, 2000). Many colleges also favor volunteer work in admissions decisions, and college admissions have become more competitive. In fact, college graduates (42.8%) are nearly 5 times more likely to volunteer than high school dropouts (8.6%; U.S. Bureau of Labor Statistics, 2009d). Thus, given the fact that college graduates are the same individuals faced with these admission procedures, the motive for increased youth volunteering is unclear. There has also been a slight increase in the volunteer rate between 2008 (26.4%) and 2009 (26.8%), a finding that seemingly conflicts with a decline in empathy (U.S. Bureau of Labor Statistics, 2009e). However, for our purposes it is important to examine the data in terms of age: This increase in volunteerism was driven mainly by individuals between the ages of 35 and 54, and people in their early 20s (i.e., those most similar to our target demographic in the current study) reported the fewest volunteer hours. Moreover, as stated earlier, many reports suggest overall volunteerism is decreasing over a longer time frame despite hovering around 25%, with teenagers and young adults consistently reporting the greatest drops (U.S. Bureau of Labor Statistics, 2009e).

Another trend that appears to be inconsistent with a decline in empathy is a reduction in crime, diverging from previous findings that link criminal behavior with low empathy (e.g., Bovasso et al., 2002; Jolliffe & Farrington, 2004). Crime has declined since the early 1990s (Donohue & Levitt, 2001), and violent criminal acts such as murder, rape, robbery, and aggravated assault have all shown steady, marked decreases from the early 1990s to the late 2000s (Rand, 2008). These generalized findings might first appear to suggest that empathy is stable or even increasing, but on greater scrutiny they seem to demonstrate the opposite. When controlling for type of victim, these statistics reveal that certain criminal acts have actually risen over time: Acts of violence against the homeless have shown dramatic increases, especially over the past 10 years, and were recently estimated to be at an all-time high (Lewan, 2007; National Coalition for the Homeless, 2009); hate crimes against Hispanics and perceived immigrants as well as against lesbians, gays, and bisexual and transgender individuals are all significantly increasing (Leadership Conference on Civil Rights Education Fund, 2009); and hit-and-run car accidents have increased by about 20% since 1998 (Heath, 2006; National Highway Traffic Safety Administration, 2009). Accordingly, these specific increases in crime against stigmatized, marginalized, or otherwise defenseless groups seem to support our claim that EC and PT are indeed on the decline.

Limitations. One of the limitations of analyzing self-report data is that they might be influenced by people's tendencies to respond in a socially desirable fashion. However, although the EC, PT, and PD subscales of the IRI have been shown to be related to social desirability (Watson & Morris, 1991), social desirability has not changed during a similar time period as this study (Twenge & Im, 2007). This makes it unlikely that our results can be accounted for by changes in socially desirable responding over time. This study also limits its conclusions to American society because there are not much data available over time from other countries. There is also not much work examining cross-cultural similarities and differences in empathy. Future work might examine whether empathy has also been declining in other countries or whether these changes are only occurring in the United States, a finding that would help clarify some of our speculation about causes of decreasing empathy. For example, if one cause involves changing media consumption, we could compare empathy scores between countries that have relatively more or less media consumption of various kinds. The data are also limited to college student populations, and future research might examine shifts in empathy in other populations.[4] However, the IRI is commonly given to college students, and their relative homogeneity over time is precisely why they are a good population in which to examine temporal trends. Some noncollege populations might not be as comparable over time (e.g., community samples, clinical samples).

This study also cannot determine whether the changes we found in PT and EC are a cohort effect or a time-period effect. Any time-lag study that includes people of only one age group does not allow researchers to determine if other age groups also changed in a given characteristic. It is possible that both younger and older Americans became less empathic from the late 1970s to 2009. It is also possible that older Americans did not change at all or even became more empathic over time. However, given the relative stability of

empathy (e.g., Davis & Franzoi, 1991; Eisenberg et al., 2002), much of the shift is probably a generational rather than a time-period effect.

Concluding Thoughts. We dare not conclude by suggesting that empathy is declining and nothing can be done about it. Just as we speculate that certain situations lead empathy to decrease, other situations that can increase people's empathy. One promising intervention, the Roots of Empathy, has been successfully implemented in elementary schools by teaching children empathy through multiple structured interactions with a developing infant from their community. This work has found decreases in aggressive behavior and increases in prosocial behavior such as sharing and helping in children randomized to the treatment group compared to those in the control group (see Gordon, 2003). Other experimental work also finds that empathy is teachable in children and young adults (Feshbach, 1983; Feshbach & Cohen, 1988; Hatcher et al., 1994) through a variety of methods. So although there has been no meta-analytic work specifying which elements of empathy training are effective in changing particular behaviors in specific groups of people, initial work suggests that declines in empathy appear to be changeable. We recommend more work on examining potential causes, consequences, and remedies of increases in self-focus (e.g., Twenge et al., 2008) and decreases in other-focus. For example, if technology and social networking are indeed significant contributors to empathy decline, perhaps a simple intervention could be to spend 20 or 30 minutes each day personally interacting with family and friends while (emotionally and cognitively) taking their perspective.

To summarize, the present research examined changes in empathy over time, based on speculation that related trends and correlates (e.g., increasing narcissism and individualism) reflect a diminishingly empathic society. We found that dispositional empathy—as measured by the IRI (Davis, 1980a), a widely used and validated measure of the trait—declined over time among American college students, particularly on the EC and PT subscales and since 2000. This finding is troubling, as dispositional empathy is linked with higher prosociality and lower antisociality, but it opens the door for research on the causes and consequences of living in a potentially less empathic society.

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Notes

1. The claim that narcissism may be rising has roused considerable academic debate. Others (e.g., B. W. Roberts, Edmonds, & Grijalva, 2010; Trzesniewski & Donnellan, 2010) argue that changes in narcissism over time are specious because of questionable methods and that such increases are not exhibited by various important demographics, including certain college students. These concerns have been directly addressed (e.g., Twenge, Konrath, Foster, Campbell, & Bushman, 2008). The current article rests on the widely supported claim that narcissism is indeed rising at least to some extent, even if the degree of these changes is less decided. Those involved in the debate currently seek some sort of resolution.
2. Three additional samples used a 1 to 7 Likert-type scale and one used a 1 to 9 scale.
3. We also weighted by the inverse of the variance (called *w*), a technique that includes the within-study standard deviation as well as sample size; w is the usual weight applied in meta-analyses. Shadish and Haddock (1994, pp. 272-273) provide weights for aggregated data, and we modified this technique for means to compute the variance: the within-study standard deviation squared, times 1/*n* of the individual study. We then inverted the variance (1/*v*) to make the weighting variable (*w*; also see Lipsey & Wilson, 2001). Thus, weighting by *w* takes the standard deviation of the individual studies into account as well as the sample size. Because many of the studies were missing standard deviations (range = 9 to 38 per Interpersonal Reactivity Index subscale), we imputed the mean inverse variance for missing cases to conduct this analysis feasibly. The patterns when weighting by inverse variance were very similar to weighting by sample size: Empathic Concern ($\beta = -.38$, $p = .002$, $k = 66$, $d = 0.64$), Perspective Taking ($\beta = -.21$, $p = .09$, $k = 64$, $d = 0.32$), Fantasy ($\beta = -.18$, $p = .28$, $k = 37$, $d = 0.17$), Personal Distress ($\beta = .07$, $p = .65$, $k = 46$, $d = -0.12$).
4. There is an important caveat that applies to the current study: All of our data were collected from college student samples. Although we make clear that dispositional empathy is declining specifically in American college students throughout the article, it is important to not necessarily extend our findings to other samples. Some of our arguments involve theoretical implications from noncollege samples; for example, it may not be ideal to argue that increased violent crime is an indicator of decreased empathy among college students because it tends to be perpetrated by people who do not graduate from college (Tracy & Johnson, 1994). We advise the reader to remember that although dispositional empathy seems to be declining in American college students, similar patterns may or may not exist in other samples. However, we hope these issues provide the basis for important future research.

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