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Tracking the Trajectory of Shame, Guilt, and Pride Across the Life Span

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Abstract

The authors examined age differences in shame, guilt, and two forms of pride (authentic and hubristic) from age 13 to 89, using cross-sectional data from 2,611 individuals. Shame decreased from adolescence into middle adulthood, reaching a nadir around age 50, and then increased in old age. Guilt increased from adolescence into old age, reaching a plateau at about age 70. Authentic pride increased from adolescence into old age, whereas hubristic pride decreased from adolescence into middle adulthood, reaching a minimum around age 65, and then increased in old age. On average, women reported experiencing more shame and guilt; Blacks reported experiencing less shame and Asians more hubristic pride than other ethnicities. Across the life span, shame and hubristic pride tended to be negatively related to psychological well-being, and shame-free guilt and authentic pride showed positive relations with well-being. Overall, the findings support the maturity principle of personality development and suggest that as people age they become more prone to experiencing psychologically adaptive self-conscious emotions, such as guilt and authentic pride, and less prone to experiencing psychologically maladaptive ones, such as shame and hubristic pride.

Key Words: shame, guilt, pride, age differences, life span, psychological well-being

Over the past two decades, interest in the self-conscious emotions—such as shame, guilt, and pride—has grown dramatically (Tracy, Robins, & Tangney, 2007). These emotions are important given their significant influences on moral judgment, social behavior, and subjective well-being (Tangney, Stuewig, & Mashek, 2007; Tangney, Wagner, Fletcher, & Gramzow, 1992; Tangney, Wagner, & Gramzow, 1992; Tracy, Cheng, Robins, & Trzesniewski, 2009). Despite the importance of these emotions, we know relatively little about their developmental course across the life span. Such knowledge would inform interventions that are designed to promote the moral, social, and affective well-being of individuals. Research on the development of self-conscious emotions has focused on childhood (Hart & Matsuba, 2007; Lagattuta & Thompson, 2007; Lewis, 2007). Although childhood is clearly an important developmental stage with regard to self-conscious emotions, it covers only a small portion of the human life course. The goal of the present research is to fill this gap and to provide knowledge on the life-span trajectories of self-conscious emotions. Specifically, we used data from a large cross-sectional study to examine: (a) age differences in shame, guilt, and two forms of pride from age 13 to 89; (b) whether these age trajectories hold across gender, education level, social class, and ethnicity; (c) relations between self-conscious emotions and indicators of psychological well-being; and (d) whether the trajectories of self-conscious emotions can be accounted for by the trajectories of indicators of psychological well-being.

Before reviewing the empirical and theoretical background with regard to the development of shame, guilt, and pride, we shortly provide definitions of the constructs. Shame is an unpleasant emotion that individuals experience when they fail to meet internalized social standards, including standards of morality, competence, or aesthetics (Tangney, 1999; Tracy & Robins, 2004). Shame implies the perceived or feared loss of social status and a failure to live up

to one's own standards of excellence, with an attributional focus on internal, stable, and uncontrollable causes (e.g., "I am a bad person"; see also Janoff-Bulman's, 1979, concept of characterological self-blame). Guilt likewise is an unpleasant emotion experienced when failing to meet internalized social standards (Tangney, 1999; Tilghman-Osborne, Cole, & Felton, 2010; Tracy & Robins, 2004). Guilt often implies a real or imagined moral transgression, with an attributional focus on internal, unstable, and controllable causes (e.g., "I did a bad thing"). Pride, in contrast, is a pleasant emotion in response to meeting internalized social standards (Tangney, 1999; Tracy & Robins, 2004). Recent research suggests that two forms of pride—specifically, authentic and hubristic pride—can be reliably distinguished (Tracy & Robins, 2007). In both forms of pride, the attributional focus is on internal causes. However, whereas authentic pride implies attributions to unstable and specific causes (e.g., specific accomplishments or prosocial behaviors; "I did a good thing."), hubristic pride results from attributions to stable and global aspects of the self (e.g., "I am a good person"). Whereas authentic pride has been proposed as the affective core of self-esteem, hubristic pride is theorized to be the affective core of narcissism (Tracy et al., 2009).

<div style="text-align:center">Changes in Self-Conscious Emotions Across the Life Span</div>

The extant literature includes very few studies that have directly examined age differences in self-conscious emotions. Two studies examined age differences in shame in samples with limited age ranges. Crystal, Parrott, Okazaki, and Watanabe (2001) found that older college students reported less shame than younger college students. In a longitudinal study, De Rubeis and Hollenstein (2009) found that shame decreased slightly over a one year period during early adolescence. Thus, very little is known about the life-span development of shame, and almost nothing about the development of guilt and pride.

Despite the dearth of research on age differences in self-conscious emotions, there is a large literature on the development of (a) general affective dispositions and (b) personality traits. Interestingly, these two bodies of research support two general principles—the positivity principle and the maturity principle—that lead to competing sets of hypotheses about age differences in self-conscious emotions.

Changes in Affective Dispositions Across the Life Span:

The Positivity Principle

The available data suggest that positive affect remains relatively stable from young to middle adulthood (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Charles, Reynolds, & Gatz, 2001), possibly increasing in adulthood (Helson & Soto, 2005; E. M. Kessler & Staudinger, 2009; Mroczek & Kolarz, 1998), and then slightly decreasing in old age (Charles et al., 2001).[1] In contrast, negative affect decreases from young to middle adulthood (Gross et al., 1997; Helson & Soto, 2005; E. M. Kessler & Staudinger, 2009; Mroczek & Kolarz, 1998), but the decrease levels off in old age (Carstensen et al., 2000; Charles et al., 2001). Likewise, neuroticism, a construct closely related to negative affectivity, decreases from young adulthood to midlife and remains low into old age (Donnellan & Lucas, 2008; B. W. Roberts, Walton, & Viechtbauer, 2006; Terracciano, McCrae, Brant, & Costa, 2005). Also, older adults report having better emotion regulation than younger adults (Carstensen et al., 2000; Gross et al., 1997).

Other constructs related to well-being—such as life satisfaction, self-esteem, and depression—show life-span trajectories similar to positive and negative affect. For example, Mroczek and Spiro (2005) found that life satisfaction increases from young adulthood to midlife, reaches a peak at about age 65, and then declines during old age. Studies using samples of old and very old individuals corroborate the decline of life satisfaction in old age (Gerstorf, Ram,

Estabrook et al., 2008; Gerstorf, Ram, Röcke, Lindenberger, & Smith, 2008). Likewise, self-esteem follows a quadratic trajectory across the life span, increasing during young and middle adulthood, reaching a peak at about age 60 to 65, and declining in old age (Orth, Trzesniewski, & Robins, 2010; Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). Depression, a negative indicator of well-being, shows the opposite pattern, decreasing from young adulthood to middle adulthood and then increasing in old age (R. C. Kessler, Foster, Webster, & House, 1992; Lewinsohn, Rohde, Seeley, & Fischer, 1991).

This previous research can be summarized by what might be called the "positivity principle"—the principle that the experience of pleasant affect tends to increase, and the experience of unpleasant affect tends to decrease, across adulthood. This principle would lead us to expect that pleasant emotions, such as authentic and hubristic pride, tend to increase with age, whereas unpleasant emotions, such as shame and guilt, tend to decrease with age.

Changes in Personality Traits Across the Life Span:

The Maturity Principle

An alternative to the positivity principle is suggested by research examining age differences in personality traits across the life span. The available cross-sectional and longitudinal data indicate that agreeableness increases across the life span (Allemand, Zimprich, & Hendriks, 2008; Donnellan & Lucas, 2008; B. W. Roberts et al., 2006; Terracciano et al., 2005); conscientiousness increases throughout the adult life span (Allemand et al., 2008; B. W. Roberts et al., 2006) or increases from young adulthood to midlife and then decreases during old age (Donnellan & Lucas, 2008; Terracciano et al., 2005); empathy remains stable across the life span (Grühn, Rebucal, Diehl, Lumley, & Labouvie-Vief, 2008); and narcissism decreases from young adulthood to midlife (Foster, Campbell, & Twenge, 2003). Overall, these life-span

trajectories reflect movement toward higher levels of maturity with increasing age, a phenomenon Roberts and his colleagues have labeled the "maturity principle" (B. W. Roberts & Mroczek, 2008; B. W. Roberts, Wood, & Caspi, 2008).

The maturity principle suggests that the psychologically adaptive emotions should generally increase with age, whereas maladaptive emotions should show age-related declines. Regarding self-conscious emotions specifically, previous research has shown that shame is linked to low psychological well-being and dysfunctional interpersonal behaviors, whereas guilt is unrelated to psychological well-being and linked to prosocial, well-adjusted interpersonal behaviors (McMurrich & Johnson, 2009; Orth, Berking, & Burkhardt, 2006; Tangney, Wagner, Fletcher et al., 1992; Tangney, Wagner, & Gramzow, 1992; Webb, Heisler, Call, Chickering, & Colburn, 2007, but see also Harder, Cutler, & Rockart, 1992). Moreover, this divergent pattern of relations is even larger when shame and guilt are simultaneously examined and mutually controlled in their relations with intrapersonal and interpersonal adjustment (Orth et al., 2006; Tangney, Wagner, Fletcher et al., 1992; Tangney, Wagner, & Gramzow, 1992), indicating a pattern of suppression effects (Paulhus, Robins, Trzesniewski, & Tracy, 2004).

The findings for authentic and hubristic pride generally parallel those found for guilt and shame, respectively. Authentic pride has been linked to well-being and prosocial interpersonal behavior, whereas hubristic pride has been linked to low well-being and maladjusted interpersonal behavior, and these divergent relations become even stronger when authentic and hubristic pride are mutually controlled (Tracy et al., 2009; Tracy & Robins, 2007). The maturity principle would therefore lead us to expect that levels of authentic pride, and perhaps guilt, should generally increase with age, whereas hubristic pride and shame should decrease.

<center>Goals of the Present Research</center>

Thus, our first goal for the present research was to examine age differences in self-conscious emotions. Specifically, we will test whether self-conscious emotions show linear or non-linear trajectories across the life span, and whether these age trends are consistent with the positivity or the maturity principle. A pattern of age-related increases in authentic and hubristic pride, but decreases in shame and guilt, would be consistent with the positivity principle. In contrast, a pattern of increases in authentic pride and guilt, but decreases in hubristic pride and shame, would be consistent with the maturity principle.

Our second goal was to test whether the mean levels and age trajectories of self-conscious emotions differ as a function of demographic characteristics, such as gender, education, social class, and ethnicity. Previous research suggests that women experience more shame and guilt (T. A. Roberts & Goldenberg, 2007; Tangney & Dearing, 2002a). Men report experiencing more hubristic pride than women, but the two sexes do not differ in authentic pride (Tracy & Robins, 2007). There is relatively little research examining the effects of education, social class, and ethnicity on self-conscious emotions. Given that education and social class are associated with self-esteem (Robins et al., 2002; Twenge & Campbell, 2002), and that self-esteem is positively related to authentic pride and negatively related to shame (Tracy et al., 2009), we expect mean levels of shame to relate negatively with level of education and social class, and mean levels of authentic pride to relate positively with education and social class. To our knowledge, no previous studies have examined whether demographic characteristics moderate age differences in self-conscious emotions, and so the present research provides initial tests of these relations.

Similarly, no previous research has examined the relations between self-conscious emotions and psychological well-being from a life-span perspective. Therefore, our third goal

was to examine whether these relations differ across the life span, using depression and self-esteem as our indicators of well-being. We will also test whether shame and guilt and the two forms of pride show mutual suppression effects in their relations with depression and self-esteem, as typically found in previous research, and whether these suppression effects vary across the life span.

Our fourth and final goal was to test whether the trajectories of self-conscious emotions can be explained by age differences in psychological well-being or whether the age trajectories of self-conscious emotions hold even after controlling for psychological well-being (i.e., measures of depression and self-esteem). It is possible that age differences in specific emotions such as shame, guilt, and pride simply reflect age differences in the general positivity or negativity of the participants' self-conceptions (as captured by global self-esteem) or generalized negative affect (as captured by depression).

Method

The data were collected via the Internet, using a noncommercial website that provides access to a wide variety of psychological studies (http://www.personalitylab.org). Participants were recruited using several strategies. First, the website has been online for several years and receives a continuous stream of visitors every day. Second, we announced the study on websites that list information about psychological surveys on the Internet (e.g., http://www.socialpsychology.org). Third, we directly requested participation from several thousand persons, stratified by age, using the Study Response Project (http://studyresponse.syr.edu). Immediately after the survey, participants were provided individualized feedback (i.e., how their scale scores compared to population norms) in exchange for participation in the study.

Participants

The sample consisted of 2,611 individuals (69% female). Mean age of participants was

33.6 years (*SD* = 17.4, Range = 13 to 89). For a subset of the analyses (i.e., correlations between

self-conscious emotions and psychological well-being), we divided the sample into age groups:

13−17 years (*n* = 488), 18−21 years (*n* = 519), 22−29 years (*n* = 385), 30−39 years (*n* = 339),

40−49 years (*n* = 302), 50−64 years (*n* = 403), and 65 years and older (*n* = 175). Seventy-four

percent of participants were White/Caucasian, 10% were Asian/Asian ancestry, 6%

Black/African ancestry, 4% Hispanic/Latino, 1% Native American/American Indian, and 5% of

other ethnicity. Seventy-three percent reported living in the United States, 8% in Canada, 8% in

another Western English-speaking country (Australia, Ireland, New Zealand, United Kingdom),

and 11% in another country (with largest numbers from India, the Philippines, and Singapore).[2]

Measures

Shame and guilt. We used the Test of Self-Conscious Affect-3 (TOSCA-3) to assess

proneness to shame and guilt (Tangney & Dearing, 2002b). The TOSCA is one of the most

frequently used measures of shame and guilt (Robins, Noftle, & Tracy, 2007) and its validity has

been repeatedly confirmed (e.g., Tangney, Miller, Flicker, & Barlow, 1996; Tangney, Wagner, &

Gramzow, 1992). The TOSCA includes 16 scenarios from everyday life and measures the

likelihood of several common reactions to those situations. By using a set of widely varying

hypothetical scenarios, the TOSCA corresponds to the recommendations by Tilghman-Osborne,

Cole, and Felton (2010) for the design of trait measures of guilt (and, consequently, shame).

Responses were measured on a 5-point scale ranging from 1 (*not likely*) to 5 (*very likely*). In the

present sample, the alpha reliabilities were .83 for the 16-item shame scale and .80 for the 16-

item guilt scale.

Authentic and hubristic pride. Participants completed the trait version of Tracy and Robins' (2007) authentic and hubristic pride scales. The validity of these scales has been confirmed in several studies (Tracy et al., 2009; Tracy & Robins, 2007). The authentic pride scale includes items such as "accomplished" and "productive" and the hubristic pride scale includes items such as "arrogant" and "egotistical." Responses were measured on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present sample, the alpha reliabilities were .91 for the 7-item authentic pride scale and .90 for the 7-item hubristic pride scale.

Depression. Depression was assessed with the Center for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977). The CES-D is a frequently used 20-item self-report measure for the assessment of depressive symptoms in non-clinical, sub-clinical, and clinical populations, and its validity has been repeatedly confirmed (Eaton, Smith, Ybarra, Muntaner, & Tien, 2004). Participants were instructed to assess how frequently they experienced each symptom within the preceding seven days. Responses were measured on a 4-point scale (0 = *rarely, less than one day*; 1 = *some of the time, 1−2 days*; 2 = *a moderate amount of time, 3−4 days*; 3 = *most or all of the time, 5−7 days*). In the present sample, the alpha reliability of the CES-D was .92.

Self-esteem. Self-esteem was assessed with the 10-item Rosenberg Self-Esteem Scale (RSE, Rosenberg, 1965). The RSE is the most commonly used and well-validated measure of global self-esteem (Robins, Hendin, & Trzesniewski, 2001). Responses were measured on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present sample, the alpha reliability of the RSE was .90.

Education. Education was assessed using 6 categories: 20% reported not having completed high-school, 15% having high school diploma, 31% some college, 21% college degree, 9% masters degree (M.S., M.A., M.B.A.), and 4% professional degree (e.g., J.D., Ph.D., M.D.).

Social class. Social class was assessed using 5 categories: 19% categorized themselves as working class, 17% as lower-middle class, 46% as middle class, 17% as upper-middle class, and 1% as upper class.

<div align="center">Results</div>

Life-Span Trajectories of Self-Conscious Emotions

Table 1 shows the means, standard deviations, and intercorrelations among the measures. Our first goal was to examine the trajectories of self-conscious emotions across the life span. For the analyses of trajectories, the measures of self-conscious emotions were converted to *z*-scores, so that trajectories can be readily compared across the different emotions. Age was centered for the analyses. We regressed each of the emotion measures hierarchically on linear, quadratic, and cubic age, and tested whether each step explained a significant amount of incremental variance ($p < .05$). Note that in all analyses of trajectories reported, age was modeled as a continuous variable (i.e., individual age), not as a categorical variable (i.e., age cohorts). The analyses suggested quadratic trajectories for shame, guilt, and hubristic pride, and a linear trajectory for authentic pride. Cubic age did not explain incremental variance in any of the emotion measures.

Figure 1 shows the predicted trajectories. Shame decreased by about a one-half standard deviation ($d = -0.55$) from adolescence to middle adulthood, reaching a minimum at about age 50, and then increased by about a one-half standard deviation ($d = 0.54$) from age 50 to 89. Guilt increased by about a one-half standard deviation ($d = 0.56$) from adolescence to old age,

reaching a plateau at about age 70. Authentic pride increased steadily from adolescence to old age by about three-quarters of a standard deviation ($d = 0.74$). Hubristic pride decreased by about a one standard deviation ($d = -1.01$) from adolescence into middle adulthood, reaching a minimum at about age 65, and then increased by about a one-quarter standard deviation ($d = 0.19$) from age 65 to 89. All of the trends from adolescence through middle age are consistent with the maturity principle, whereas the decreases in hubristic pride and increases in guilt are not consistent with the positivity principle. Interestingly, some of the trends in old age (e.g., for shame) are not consistent with either principle.

Moderators of the Life-Span Trajectories of Self-Conscious Emotions

Our second goal was to test whether demographic variables moderate the age trajectories of self-conscious emotions. After controlling for linear and quadratic age effects, we regressed the emotion measures hierarchically on (a) the demographic variable, (b) a term representing the interaction between the demographic variable and linear age, and (c) a term representing the interaction between the demographic variable and quadratic age. A significant main effect indicates that the demographic variable has an effect on the intercept (i.e., overall level) of the trajectory, whereas a significant interaction effect indicates that the demographic variable moderates the linear or quadratic slope of the trajectory. Because of the large number of analyses conducted (i.e., one analysis for each combination of four emotions and six moderators, resulting in 24 analyses) we adjusted the significance level to $p < .002$, following the Bonferroni method (i.e., dividing .05 by 24). The measures of education and social class were centered for the analyses, and gender and ethnicity were examined as dummy variables.

Table 2 summarizes the main effects of the demographic variables on the trajectories. Gender had small to medium sized effects on shame, guilt, and hubristic pride: On average,

female participants had higher levels of shame and guilt, and lower levels of hubristic pride. Education and social class had, at most, small effects on the level of the trajectories. In terms of ethnicity, shame was highest among Whites and lowest among Blacks, whereas hubristic pride was lowest among Whites and highest among Asians.[3]

We found only one significant interaction with linear age, and no significant interactions with quadratic age. Figure 2 illustrates the significant interaction between education level and linear age on authentic pride, with age trends plotted for individuals with high (i.e., one standard-deviation unit above the mean) and low (i.e., one standard-deviation unit below the mean) levels of education. As this figure shows, authentic pride showed a more positive age trend for highly educated individuals than for less educated individuals. With the exception of this interaction effect, the shape of the trajectories (i.e., the linear and quadratic slopes) largely replicated across gender, education, social class, and ethnicity.

Relations between Self-Conscious Emotions and Psychological Well-Being Across the Life Span

Our third goal was to examine the relations between self-conscious emotions and psychological well-being across the life span (using depression and self-esteem as indicators of well-being). Table 3 shows the correlations of self-conscious emotions with depression and self-esteem, separately for each age group and in the full sample. We first consider the correlations in the full sample and then test whether these relations varied as a function of age. Consistent with previous research (Tracy et al., 2009), authentic pride was associated with high self-esteem and low levels of depression whereas hubristic pride was associated with depression and low self-esteem. Shame and guilt showed similar divergent relations; shame was associated with depression and low self-esteem whereas guilt was weakly associated with low levels of depression. Thus, shame and hubristic pride, despite correlating only .15 with each other, both

seem to reflect a maladaptive pattern, whereas guilt and authentic pride, despite correlating only .08, both seem to reflect an adaptive pattern.

To test whether the relations between self-conscious emotions and well-being varied across age groups, we compared the fit of two multiple group path models. The models included a covariance between two manifest variables (e.g., shame and depression), estimated simultaneously in seven age groups: in one model, the covariance was constrained to be equal across age groups and in the other model the covariance was freely estimated. To test for differences in model fit, we used the test of small differences in fit, which is recommended for large sample sizes (MacCallum, Browne, & Cai, 2006). For all correlations, cross-group constraints did not significantly decrease fit (Table 4). Thus, the results suggest that the relations between self-conscious emotions and well-being do not differ across age groups.

We next examined whether shame and guilt show mutual suppression effects in their relation with psychological well-being (see the partial correlations reported in Table 3). Consistent with a suppression effect, controlling for guilt increased the strength of the relation between shame and low well-being (high depression, low self-esteem). Similarly, controlling for shame changed the guilt correlations from essentially zero to positive with well-being (low depression, high self-esteem), a pattern that also indicates a suppression effect. In the full sample, all partial correlations differed significantly from the corresponding simple correlations ($p < .006$).[4] To test whether the partial correlations varied across age groups, we again compared the fit of two multiple group path models. The models included a covariance between the residuals of two manifest variables (e.g., shame and depression), which were simultaneously regressed on a third manifest variable (e.g., guilt); again, the models were estimated simultaneously in seven age groups. For all partial correlations, cross-group equality constraints

did not significantly decrease fit (Table 4). Thus, the results suggest that the suppression effects

of shame and guilt in their relation with well-being do not differ across age groups.

We also examined whether authentic and hubristic pride show mutual suppression effects

in their relation with psychological well-being (see Table 3). Controlling for hubristic pride did

not alter the correlations between authentic pride and well-being, as indicated by nonsignificant

differences between the simple and partial correlations. Although controlling for authentic pride

did not significantly alter the correlation between hubristic pride and depression, it increased the

negative correlation between hubristic pride and self-esteem, consistent with a suppression effect

($p < .006$). Again, the partial correlations did not significantly vary across age groups, as

indicated by multiple group path models (Table 4).

Life-Span Trajectories of Self-Conscious Emotions Controlling for Psychological Well-Being

Our fourth goal was to test whether age differences in psychological well-being account

for the life-span trajectories of self-conscious emotions; for example, does shame decrease from

adolescence to midlife because psychological well-being increases during the same period?[5]

Therefore, we examined the trajectories of self-conscious emotions controlling for depression

and self-esteem. Figure 3 shows the controlled trajectories. Visual comparison of the controlled

vs. uncontrolled trajectories (Figure 3 vs. Figure 1) suggests that controlling for psychological

well-being alters the trajectories of shame and authentic pride, but not the trajectories of guilt and

hubristic pride. For each self-conscious emotion, we statistically tested the effect of controlling

for well-being by comparing the fit of two path models. In both models, the emotion (e.g.,

shame) was regressed on linear age, quadratic age, depression, and self-esteem (all exogenous

variables were correlated). The first model constrained the trajectory to the values of the

uncontrolled trajectory as shown in Figure 1 (by fixing the intercept, the linear age coefficient,

and the quadratic age coefficient), whereas the second model freely estimated the trajectory. Significant differences emerged for shame and authentic pride, but not for guilt and hubristic pride (Table 5). With regard to authentic pride, controlling for well-being eliminated the positive linear slope across the life span, and only minor age differences in authentic pride are evident after controlling for well-being. Thus, increases in authentic pride across the life span are closely tied to increases in well-being. With regard to shame, controlling for well-being attenuates the decrease from adolescence to midlife, but it does not eliminate the increase from midlife to old age. Thus, age differences in psychological well-being are only partially able to explain the life-span trajectory of shame.[6]

Discussion

We investigated age differences in self-conscious emotions across the life span, using cross-sectional data from a large sample of individuals aged 13 to 89. Shame and hubristic pride decreased from adolescence to midlife and then increased into old age, whereas guilt and authentic pride increased across the life span, except for a slight decline in guilt occurring in old age. Demographic variables such as gender, education, social class, and ethnicity mainly predicted the level of the trajectories (i.e., the demographic variables had main effects), but did not moderate the slopes of the trajectories (i.e., there was only one significant interaction of demographic variables with linear and quadratic age). On average, women reported more shame and guilt and less hubristic pride than men; educated individuals reported more authentic and hubristic pride than less educated individuals; affluent individuals reported less shame and more authentic pride than less affluent individuals; Blacks reported less shame than Whites and Asians, and Asians reported more hubristic pride than Blacks and Whites.[7]

Moreover, the self-conscious emotions exhibited a stable pattern of correlations with psychological well-being. Although shame was related to low psychological well-being, guilt had essentially no relation. When shame and guilt were mutually controlled for, the link between shame and low well-being became even stronger, whereas guilt became positively related to well-being—corresponding to suppression effects reported in previous research (Orth et al., 2006; Paulhus et al., 2004; Tangney, Wagner, & Gramzow, 1992). Authentic pride was strongly related to well-being, whereas hubristic pride was related to low well-being, corroborating previous studies (Tracy et al., 2009; Tracy & Robins, 2007). Importantly, all of these correlations and partial correlations did not significantly differ across the life span. Some authors have raised the question of whether shame is ever adaptive and guilt ever maladaptive (see Tangney, 1999); the present research suggests that shame was consistently maladaptive and shame-free guilt consistently adaptive across all stages of the life span.

We also examined psychological well-being as a covariate of the trajectories of self-conscious emotions and the results indicated, except for authentic pride, that the general trends of the trajectories were unaltered. Thus, age differences in shame, guilt, and hubristic pride are not simply due to concurrent trends in psychological well-being; the trajectories of these emotions are largely or fully independent of psychological well-being. Given that we included self-esteem as one of the indicators of psychological well-being, the results suggest that the trajectories of shame, guilt, and hubristic pride are not simply due to the general positivity or negativity of the participants' self-concepts. Future research should therefore examine other factors that might explain the age trajectories of self-conscious emotions. Life experiences that might shape these trajectories include achievements in school and work, attaining social status in family and workplace relationships, engaging in prosocial behaviors such as charitable activities, and having

a satisfying and fulfilling (vs. destructive and abusive) romantic relationship. Future studies should also examine whether age differences in the perceived control over events that elicit shame, guilt, and pride help explain the life-span trajectories of these emotions. In addition, age differences in personality characteristics such as narcissism, which plays a central role in regulating self-esteem and experiences of pride and shame (Robins, Tracy, & Shaver, 2001), might help explain the age trajectory of self-conscious emotions, as well as individual differences in the shape of the trajectory.

Overall, the findings suggest that age differences in self-conscious emotions from adolescence through middle age follow the maturity principle, that people develop higher levels of adaptive, prosocial characteristics as they age (B. W. Roberts & Mroczek, 2008; B. W. Roberts et al., 2008), rather than the positivity principle that people develop higher levels of positive and lower levels of negative affect as they age. Thus, although guilt is a negatively valenced emotion, it did not follow the trajectory typically found for negative affect, but rather it showed gradual increases across the life span as is typically found for positive affect, agreeableness, and conscientiousness, corresponding to the prosocial and adaptive nature of guilt. Similarly, authentic pride showed a trajectory similar to agreeableness and conscientiousness, whereas hubristic pride followed a trajectory similar to maladaptive personality traits such as narcissism, corresponding to the adaptive and maladaptive characteristics of authentic and hubristic pride, respectively.

The present research suggests that the largest age differences in self-conscious emotions occur in adolescence and young adulthood (with large differences in all constructs examined) and old age (with large differences in shame and smaller differences in guilt and hubristic pride). These trends might be related to important transitions in social roles and relationships during

these life periods, and suggest that adolescence, young adulthood, and old age are critical periods in the development of self-conscious emotions. Therefore, these periods might be of particular importance for interventions aimed at reducing maladaptive self-conscious emotions (i.e., shame and hubristic pride) and improving adaptive emotions (i.e., guilt and authentic pride). Consequently, future research should focus more closely on adolescence, young adulthood, and old age and conduct more fine-grained analyses of these life periods, for example with regard to the possible terminal increase in shame at the end of life (cf. Gerstorf, Ram, Estabrook et al., 2008; Gerstorf, Ram, Röcke et al., 2008).

One limitation of the research is the cross-sectional study design. Trajectories that are based on cross-sectional data confound aging and cohort effects (Baltes, Cornelius, & Nesselroade, 1979). For example, it is possible that the age-dependent increase in guilt observed in the present study does not reflect actual developmental change but rather a tendency for individuals raised in the middle of the twentieth century to be more prone to guilt than those raised in more recent decades. It should be noted, however, that research using cohort-sequential longitudinal data on related constructs such as self-esteem (Orth et al., 2010) and the Big Five personality traits (Terracciano et al., 2005) typically shows weak, and often non-existent, cohort differences, as does research tracking secular changes in narcissism, self-esteem, and self-enhancement using data collected over the past several decades (Trzesniewski & Donnellan, 2010; Trzesniewski, Donnellan, & Robins, 2008). Therefore, to the extent that cohort effects are assumed to be minimal, the pattern of age differences observed in cross-sectional studies may be a reasonable starting point to examine age trajectories. Nevertheless, future research on the life-span development of self-conscious emotions should use longitudinal data to directly test for the possible bias caused by cohort effects.

Another limitation of the present research is the exclusive reliance on self-report measures. Age differences in shame, guilt, and pride could reflect age differences in people's ability and/or willingness to accurately report on their emotional experiences, rather than actual differences in emotional experience. Future research should include informant-based measures as well as measures of non-verbal displays (of shame and pride; for guilt, however, no recognizable non-verbal display exists). Using multiple methods would help control for possible self-report biases and for the effects of shared method variance on the correlations between self-conscious emotions and psychological well-being.

The data were collected via the Internet, which raises concerns about sample selectivity. Sometimes, web-based studies are critiqued because the participants are necessarily limited to people who have Internet access. In the past, Internet users tended to be individuals with higher socioeconomic status (SES), but more recent studies suggest that Internet samples are relatively diverse in terms of SES (cf. Gosling, Vazire, Srivastava, & John, 2004; Soto, John, Gosling, & Potter, 2008), which is also true of the present sample. Moreover, the available evidence suggests that data collected via the Internet are generally as reliable and valid as data collected via paper-and-pencil methods (Chuah, Drasgow, & Roberts, 2006; Gosling et al., 2004). However, a possible disadvantage of Internet samples is that the observed age differences may be confounded by age-varying sample selectivity; for example, although Internet users at age 20 or 30 might be relatively representative for their age groups, older Internet users might deviate more strongly in important characteristics from their age group. Therefore, future research on age differences in self-conscious emotions would benefit from using probability samples.

The present sample included participants who were primarily from the United States and other Western English-speaking countries. Future research should therefore examine age

differences in self-conscious emotions in samples from more diverse cultural contexts, such as

Asian and African cultures (cf. Arnett, 2008). Individuals from Asian and Western cultures show

different self-construal styles and different tendencies toward self-enhancement (Heine, Lehman,

Markus, & Kitayama, 1999; Markus & Kitayama, 1991), which may have important

consequences for the level and shape of age trajectories of self-conscious emotions. Therefore, it

is unknown whether samples from other cultural contexts would show the same or entirely

different trajectories of self-conscious emotions compared to the trajectories found in the present

study.

In conclusion, the present research contributes to our understanding of the life-span

development of self-conscious emotions—an almost entirely neglected topic—by providing

empirical evidence documenting age differences in shame, guilt, and pride across the life span,

and examining the generalizability of these trajectories across gender, education level, social

class, and ethnicity. Moreover, the research provides evidence that the relations of self-conscious

emotions with psychological well-being are stable across the life span: shame and hubristic pride

are linked to low well-being, whereas guilt and authentic pride are associated with high well-

being. An important task of future research is to examine possible causal associations between

self-conscious emotions and well-being, and to better understand the interplay between the

development of self-conscious emotions and psychological well-being across the life span.

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Footnotes

[1] E. M. Kessler and Staudinger (2009) suggested that while low-arousal positive affect increases across the life span, high-arousal positive affect remains stable.

[2] We re-ran the basic analyses (life-span trajectories, moderator analyses, and relations with psychological well-being) using the subsample of participants living in the United States (N = 1,895). The results were essentially the same as in the full sample, and all significant effects remained significant.

[3] The tests for ethnicity effects were constrained to Whites, Asians, and Blacks, due to low frequencies for other ethnicities (i.e., sample sizes below 100).

[4] For comparing partial and simple correlations, we used the following test (Finn, 1974): $z = (Z_{pr} - Z_r) \times$ SQRT $(N - q - 3)$. Z_{pr} and Z_r are the Fisher-Z values of the partial correlation pr and the simple correlation r, and q is the number of variables controlled (beyond the two variables included in the simple correlation; thus, in the present case $q = 1$). We adjusted the significance level to $p < .006$, following the Bonferroni method (dividing .05 by 8, given that we conducted the test for each combination of four emotions and two indicators of well-being).

[5] The life-span trajectories for depression and self-esteem indicated that well-being generally increased with age. Depression linearly decreased from adolescence to old age by about one standard deviation. Self-esteem increased from adolescence into adulthood (by about three quarters of a standard deviation), reached a peak at about age 75, and then declined slightly in old age.

[6] We also examined whether the trajectories of the self-conscious emotions were altered when we controlled for the complementary emotion (i.e., the shame trajectory controlling for the guilt trajectory, and vice versa, and the authentic pride trajectory controlling for the hubristic

pride trajectory, and vice versa). In all four cases, the trajectories were similar to the uncontrolled trajectories shown in Figure 1.

[7] Although this pattern is counter to what one might expect given research on Asian self-effacement (Heine et al., 1999), it does seem to be a replicable pattern. In an independent sample of several hundred UC Davis undergraduate students, Asian-American students score significantly higher than Black and White students.

Table 1

Means, Standard Deviations, and Correlations of Measures

Measure	*M*	*SD*	1	2	3	4	5	6
1. Shame	2.99	0.74	--					
2. Guilt	4.04	0.56	.42*	--				
3. Authentic pride	3.53	0.89	−.38*	.08*	--			
4. Hubristic pride	1.95	0.86	.15*	−.24*	−.06*	--		
5. Depression	0.93	0.64	.41*	−.04*	−.62*	.26*	--	
6. Self-esteem	3.57	0.88	−.52*	.02	.83*	−.20*	−.71*	--

Note. Response scales ranged from 1 to 5 for all measures, except for depression with a range from 0 to 3.

* *p* < .05.

Table 2

Main Effects of Demographic Variables on Trajectories of Self-Conscious Emotions

Demographic variable	Shame	Guilt	Authentic pride	Hubristic pride
Gender[a]	.19**	.23**	−.04	−.15**
Education level[b]	−.05	.01	.12**	.09**
Social class[c]	−.08**	−.02	.16**	.04
White[d]	.08**	.02	−.05	−.16**
Asian[d]	−.01	.01	.02	.16**
Black[d]	−.10**	−.03	.07**	.03

Note. The table shows standardized regression coefficients. Self-conscious emotions were regressed on the demographic variable, linear and quadratic age, and interactions of the demographic variable with linear and quadratic age. The analyses were conducted separately for each demographic variable. The significance level was adjusted to $p < .002$ to account for the large number of tests, following the Bonferroni method. Only one interaction had a significant effect, so the table reports only the main effects of the demographic variables (see text for further information).

[a] Positive coefficients indicate that women scored higher than men.

[b] Positive coefficients indicate that more educated individuals scored higher than less educated individuals.

[c] Positive coefficients indicate that individuals with higher social class scored higher than individuals with lower social class.

[d] Positive coefficients indicate that members of this ethnic group scored higher than members of all other ethnic groups combined.

** $p < .002$.

Table 3

Correlations (and Partial Correlations) of Self-Conscious Emotions with Psychological Well-Being Across Age Groups

Measure	Age groups							Full Sample
	13−17	18−21	22−29	30−39	40−49	50−64	65+	
Correlations with depression								
Shame	.43*	.43*	.43*	.39*	.34*	.26*	.33*	.41*
	(.47*)	(.50*)	(.46*)	(.47*)	(.39*)	(.30*)	(.36*)	(.47*)
Guilt	.07	−.01	.03	−.06	−.03	−.03	.05	−.04*
	(−.23*)	(−.27*)	(−.19*)	(−.28*)	(−.20*)	(−.16*)	(−.14)	(−.25*)
Authentic pride	−.54*	−.53*	−.66*	−.65*	−.63*	−.68*	−.59*	−.62*
	(−.58*)	(−.55*)	(−.66*)	(−.66*)	(−.63*)	(−.68*)	(−.59*)	(−.62*)
Hubristic pride	.27*	.21*	.20*	.17*	.11	.12*	.32*	.26*
	(.36*)	(.26*)	(.21*)	(.21*)	(.12*)	(.13*)	(.32*)	(.29*)
Correlations with self-esteem								
Shame	−.50*	−.55*	−.63*	−.54*	−.46*	−.36*	−.34*	−.52*
	(−.56*)	(−.59*)	(−.64*)	(−.62*)	(−.52*)	(−.43*)	(−.43*)	(−.58*)
Guilt	−.06	−.06	−.12*	.03	.01	.08	.06	.02
	(.31*)	(.27*)	(.21*)	(.36*)	(.28*)	(.26*)	(.28*)	(.31*)
Authentic pride	.81*	.80*	.85*	.85*	.85*	.85*	.79*	.83*
	(.82*)	(.81*)	(.85*)	(.86*)	(.85*)	(.86*)	(.79*)	(.84*)
Hubristic pride	−.12*	−.11*	−.09	−.13*	−.14*	−.15*	−.27*	−.20*
	(−.29*)	(−.22*)	(−.05)	(−.24*)	(−.23*)	(−.22*)	(−.30*)	(−.27*)

Note. Values in parentheses are partial correlations controlling for the complementary construct (shame controlling for guilt; guilt controlling for shame; authentic pride controlling for hubristic pride; and hubristic pride controlling for authentic pride).

* $p < .05$.

Table 4

Test of Differences in Correlations Across Age Groups

Measure	Depression		Self-esteem	
	$\Delta\chi^2$ for simple correlations	$\Delta\chi^2$ for partial correlations	$\Delta\chi^2$ for simple correlations	$\Delta\chi^2$ for partial correlations
Shame	12.8	13.8	27.9	21.4
Guilt	5.1	8.4	12.3	7.8
Authentic pride	14.3	14.9	13.8	16.1
Hubristic pride	15.1	34.0	2.2	20.2

Note. Differences in correlations across age groups were tested by comparing the fit of two multiple group path models, one that constrained the correlations to be equal across age groups (Model A) and another that allowed them to be freely estimated (Model B), using the test of small differences in fit (MacCallum et al., 2006). The critical $\Delta\chi^2$ value was 45.0, given that for all tests $N = 2,611$, $df_A = 6$, $df_B = 0$, and number of groups $G = 7$. For all tests, the observed $\Delta\chi^2$ values indicated that cross-group equality constraints did not significantly decrease fit.

Table 5

Test of the Effect of Controlling for Psychological Well-Being on the Trajectories of Self-

Conscious Emotions

Measure	$\Delta\chi^2$	df_A	df_B	Critical $\Delta\chi^2$
Shame	63.8	3	0	50.7
Guilt	0.1	3	0	50.7
Authentic pride	366.2	2	0	36.9
Hubristic pride	6.3	3	0	50.7

Note. The effect of controlling for psychological well-being was tested by comparing the fit of

two path models, one that constrained the trajectory to the values of the uncontrolled trajectory

(Model A) and another that freely estimated the trajectory (Model B), using the test of small

differences in fit (MacCallum et al., 2006). For all tests $N = 2,611$ and number of groups $G = 1$.

The observed $\Delta\chi^2$ values indicated that controlling for well-being significantly altered the

trajectories of shame and authentic pride, but not guilt and hubristic pride.

Figure Captions

Figure 1. Trajectories of self-conscious emotions from age 13 to 89. Emotion measures were converted to *z*-scores for the analyses.

Figure 2. The figure illustrates the significant interaction between education level and linear age on authentic pride, with age trends plotted for individuals with high (i.e., one standard-deviation unit above the mean) and low (i.e., one standard-deviation unit below the mean) levels of education. Measures of authentic pride and education were converted to *z*-scores for the analyses.

Figure 3. Trajectories of self-conscious emotions from age 13 to 89, controlling for psychological well-being (i.e., depression and self-esteem). Measures of self-conscious emotions, depression, and self-esteem were converted to *z*-scores for the analyses.
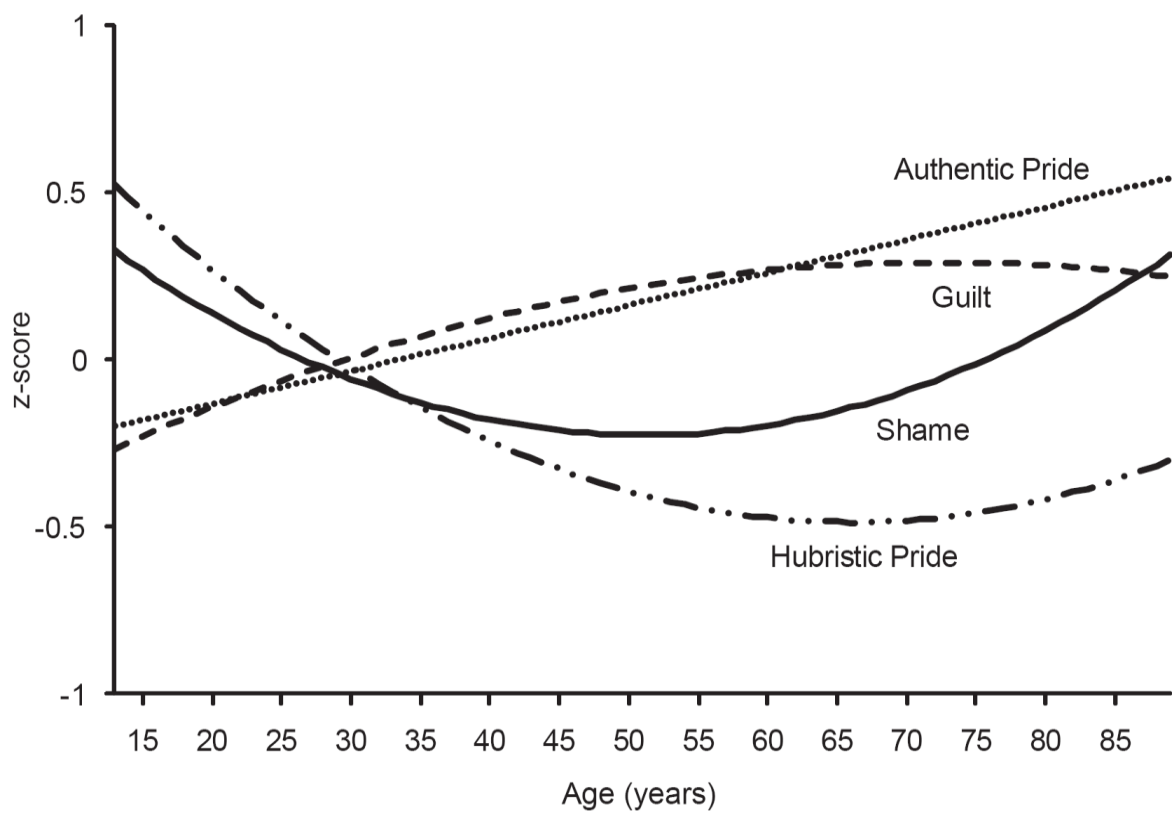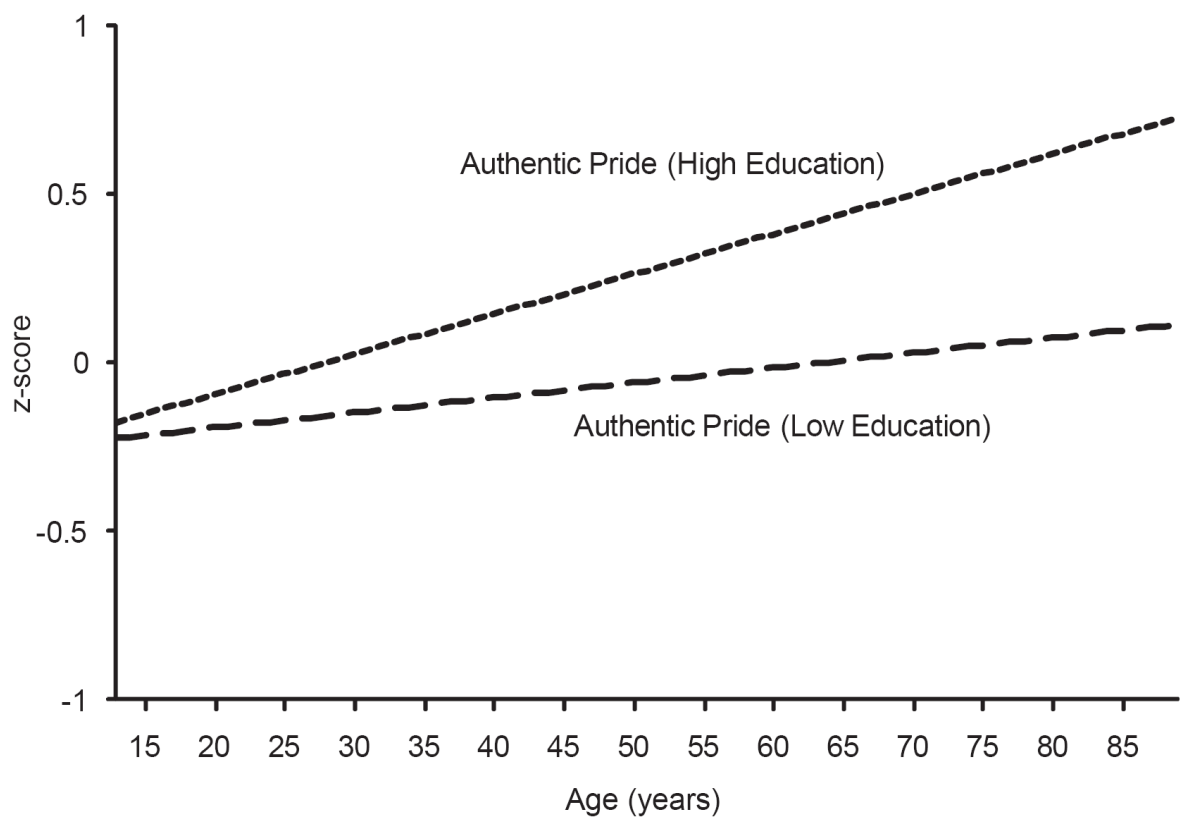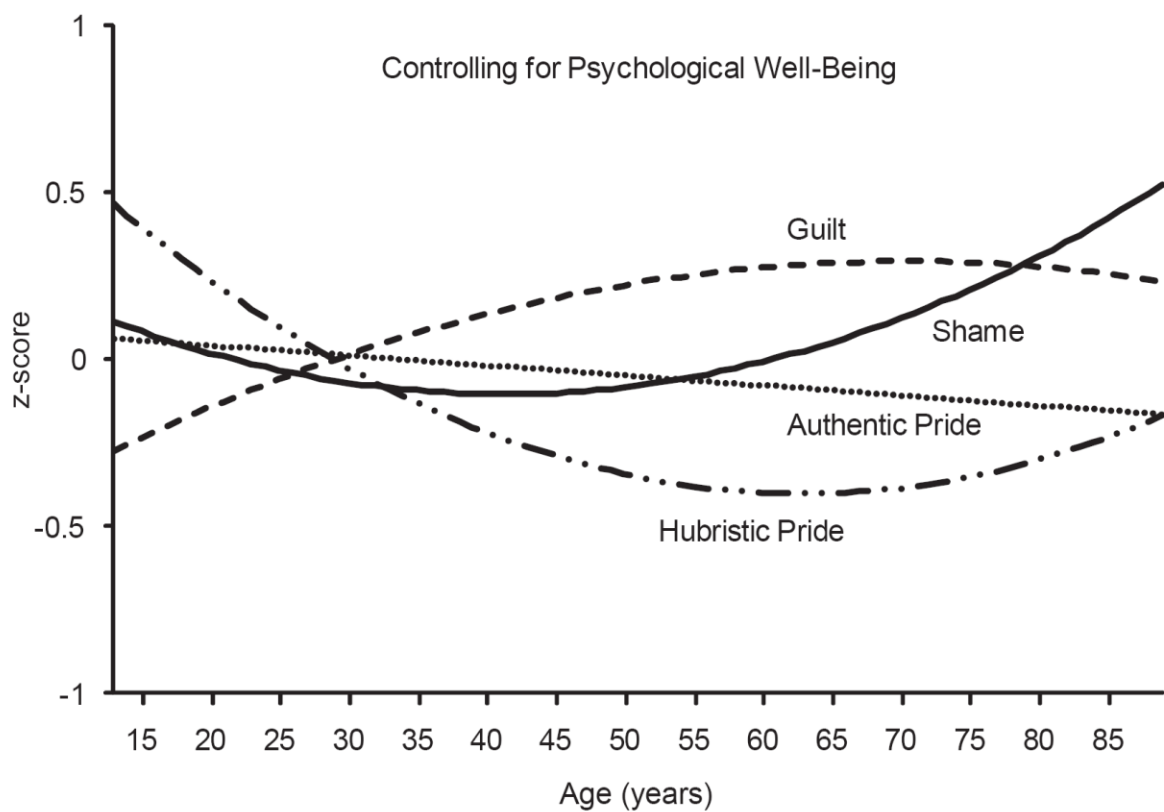
Figure 1

Figure 2

Figure 3