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Happiness Is From the Soul: The Nature and Origins of Our Happiness Concept

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What is happiness? Is happiness about feeling good or about being good? Across 5 studies, we explored the nature and origins of our happiness concept developmentally and cross-linguistically. We found that surprisingly, children as young as age 4 viewed morally bad people as less happy than morally good people, even if the characters all have positive subjective states (Study 1). Moral character did not affect attributions of physical traits (Study 2) and was more powerfully weighted than subjective states in attributions of happiness (Study 3). Moreover, moral character but not intelligence influenced children and adults' happiness attributions (Study 4). Finally, Chinese people responded similarly when attributing happiness with 2 words, despite one ("Gao Xing") being substantially more descriptive than the other ("Kuai Le") (Study 5). Therefore, we found that moral judgment plays a relatively unique role in happiness attributions, which is surprisingly early emerging and largely independent of linguistic and cultural influences, and thus likely reflects a fundamental cognitive feature of the mind.

Keywords: happiness, subjective experiences, emotion understanding, moral character, moral judgment

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Happiness is a universal pursuit and central topic of scientific study, but what *is* happiness? Ancient use of the word "happiness" centered on good luck and favorable external conditions, a meaning that still exists in many cultures today. But the meaning of happiness has shifted toward favorable internal feeling states in American English (e.g., McMahon, 2006; Oishi, Graham, Kesebir, & Galinha, 2013). Thus, it might be thought that when we say a person is happy, we simply mean that she has the right sorts of subjective feelings: a high level of positive affect, a low level of negative affect, and perhaps a strong sense of satisfaction with her life. Indeed, researchers from a number of different traditions have proposed views of happiness along these lines (e.g., Diener, 2000; Hektner, Schmidt, & Csikszentmihalyi, 2007).

By contrast, some philosophers have argued that happiness is not simply a matter of having a particular set of psychological states (e.g., Foot, 2003). They argue that while the right sort of subjective feelings and attitudes may be necessary (e.g., high positive and low negative affect), they are not sufficient: One cannot be truly happy unless one is also leading a genuinely good life. For example, Foot (2003) considers the case of a Nazi commandant who experiences all of the psychological states one would normally take to be necessary for happiness. She then argues that because he is leading a morally bad life, he cannot be considered truly happy. On this view, happiness is not purely based on subjective feelings, but being morally good is important for being happy.

Strikingly, recent empirical research has shown that people's evaluative judgments can indeed impact their happiness attributions. A series of studies show that even when participants are explicitly told that an agent has positive emotions and enjoys her day-to-day life, they are less inclined to say that this agent is happy when they are told that the agent has a morally bad life (Newman, De Freitas, & Knobe, 2015; Phillips, De Freitas, Mott, Gruber, & Knobe, 2017; Phillips, Nyholm, & Liao, 2014; Phillips, Misenheimer, & Knobe, 2011).

Existing research has led to the development of a number of competing explanations of the underlying cognitive processes of this effect, which predict different developmental trajectories. A first view is that the effect is showing us something about how people attribute psychological states to agents (Newman et al.,

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2015). For example, some data suggest that even when people are explicitly told that an agent feels good and has lots of positive emotions, if they hear that the agent has a morally bad life, they may conclude that she actually feels bad deep down in her 'true self' (Newman et al., 2015). One obvious way of working out such a theory would be to suggest that people observe numerous different agents, notice which mental states they have, and gradually acquire a sense that morally bad agents generally tend to feel bad deep down. This hypothesis predicts that the effects should arise relatively late in development. Indeed, research on the "happy victimizer" phenomenon suggests that at least when attributing momentary feelings, young children are not attuned to normative values: children (under 7) tend to attribute only positive emotions (rather than the mixed emotions attributed by older children and adults) to wrongdoers who get what they desired (Arsenio & Kramer, 1992; Murgatroyd & Robinson, 1993, 1997; Nunner-Winkler & Sodian, 1988; Smith, Chen, & Harris, 2010; Smith & Warneken, 2014).

A second view is that the effect is showing something about people's very concept of happiness (Díaz & Reuter, 2020; Phillips et al., 2017). On this first view, the concept is more complex than it might at first appear. The criteria people use to determine whether an agent is happy are not just a matter of the agent having certain psychological states but also involve the agent actually having a morally good life. One way of working out such a theory would be to suggest that the effect just reflects the idiosyncratic features of emotion concepts that happen to have arisen in Western cultures in particular. Children would then have to master the concept using the processes associated with the social learning of their own culture's emotion concepts (e.g., Harter & Whitesell, 1989; Widen & Russell, 2008, 2010), and given the complexity of this concept, one would expect this process to be completed fairly late in development. By contrast, another approach would be to say that the effect is not just a reflection of the idiosyncrasies of one culture's concept of happiness but instead reflects something more fundamental that can be seen in all concepts that have a certain sort of structure. (e.g., Phillips et al., 2017, suggest that it might reflect something shown in all concepts that have a "dual character" structure.) On this latter approach, children merely need to learn that the concept of happiness has this sort of structure, and the effect then emerges from more general processes involving concept learning. Recent research suggests that young children are capable of using concepts that have the sorts of structures referred to in such theories (Foster-Hanson & Rhodes, 2019). If children represent the concept of happiness in similar ways, then it might occur relatively early in development.

Just as the underlying mechanisms at work here can be illuminated through developmental research, they can also be illuminated through cross-linguistic research. In English, "happy" is commonly used to describe positive emotional states (e.g., "he feels happy), but also sometimes used in richer and more evaluative contexts (e.g., "he lived a happy life"). By contrast, in Mandarin Chinese, two words are commonly used to convey the meaning of "happiness": one word ("Gao Xing") is only used to describe subjective feelings while the other ("Kuai Le") has a more general character and can convey richer evaluative meanings. To illustrate, "I feel Kuai Le" and "I feel Gao Xing" are both common expressions, whereas people only say "a Kuai Le life" but not a "Gao Xing life," as "Gao Xing" is reserved to describe individuals' inner feelings. If the effect is simply a matter of the evaluative connotations associated with specific words, we might expect to find that moral judgment has a stronger influence over people's attributions of "Kuai Le" than "Gao Xing." Therefore, comparing people's attributions of happiness using these two words provides an ideal case for testing whether people's attributions of happiness depend on the idiosyncratic meaning of the specific words.

Across five studies, we examined the nature and origins of our happiness concept developmentally and cross-linguistically. Study 1 examined children and adults' happiness attributions for morally good versus morally bad characters who all experienced positive day-to-day feelings. Study 2 examined whether moral character has a relatively specific influence on happiness by testing whether it also influences children's and adults' attributions of positive physical traits. Study 3 investigated the weight afforded evaluative versus descriptive information by directly pitting them against one another. Study 4 further explored the boundary conditions of the effect by examining whether moral character and intelligence have similar influences over children and adults' attributions of happiness. Finally, Study 5 explored the cross-linguistic generalizability of the effects of moral judgment on happiness attributions. Taken together, our findings reveal that moral judgment plays a unique and robust role in happiness attributions across ages and languages, which may likely reflect a fundamental cognitive feature of the mind.

Study 1

Study 1 explores the developmental trajectory of people's concept of happiness in a relatively wide age range (encompassing the period of change in "happy victimizer" reasoning described above; e.g., Arsenio & Kramer, 1992).

Study 1a

Method.

Participants. We predetermined the sample size based on our lab default for new exploratory developmental work of 30 participants per condition. Based on the effect size of previous adult literature (Cohen's *d* of 1.603, Phillips et al., 2011), this sample size was large enough to have greater than 95% power to detect the key effect with an alpha of .05. Of the 30 4–9-year-old participants we recruited (*M* age = 7.06 years, *SD* = 1.76 years, *range* = 4.08 to 9.87, female = 14), 15 were in the younger group, 4- to 6-year-olds (*M* age = 5.58 years, *SD* = 1.01 years, *range* = 4.08 to 6.85), and 15 were in the older group, 7- to 9-year-olds (*M* age = 8.53 years, *SD* = 0.86 years, *range* = 7.38 to 9.87). Data collection was stopped when the predetermined sample size was met. Child participants in this study and subsequent studies were mainly recruited in a campus lab and two local museums, but also from local schools and festivals. There were no effects of testing locations in children's responses in the studies reported in this article. The majority of children in this study and in following studies were from middle-class families and of European American ethnicity (>75%).

To directly compare children's responses to adults, we also recruited a sample of 60 adult participants on Amazon Mechanical Turk. Five participants did not complete all questions in our study and additional five participants were recruited (*M* age = 34.05

years, *SD* = 9.83, *range* = 19–65, female = 26). The majority of the adult participants were White American (>75%) in this study and subsequent studies. All studies reported in this article were approved by the Institutional Review Board of Yale University, project title "Development of Social Category Knowledge," protocol #1305012100. Written parental consent or adult participant consent were obtained in advance of all testing; children also provided verbal assent prior to beginning the procedures.

Design and procedure. Each child was tested individually at a quiet space in a 5-min session. Each child heard and responded to three different vignettes in total, and a smiling cartoon character of the same gender as the participant was shown on the laptop as the experimenter read each story. Each child first participated in a familiarization trial, in which the participant heard a *Baseline* story involving a neutral child who has good feelings most of the time. After the story, we asked the participant to indicate whether they thought the character was happy or not happy, followed by a rating of degree (i.e., a little or really). This resulted in a four-point pictorial scale regarding how happy they thought the character was (1 = really not happy, 4 = really happy). During piloting, some older children raised questions about whether we were asking them about their memories of the story or asking what they were thinking. To avoid this confusion, we explained to participants in this and subsequent studies (across testing and comparison conditions) that "we're interested in what you think about these two kids (child version) / persons (adult version), not testing your memory about how they think about themselves." All children understood the story, the question and the scale very well. Children indicated the character in this *Baseline* story as very happy (*M* = 3.93), suggesting descriptive information about subjective states serve as a strong basis for children's happiness attributions. After this familiarization phase, each child heard one *Nice* story and one *Mean* story in a randomized order, modified based on previous scenarios used with adults (Phillips et al., 2011). Similar to the *Baseline* story, the main characters from both stories get what they want and have positive feelings most of the time. But in the *Nice* story the character is nice and often does good things, whereas in the *Mean* story the character is mean and often does bad things. Positive subjective information is presented and emphasized at the end of the scenarios, to make sure it is salient enough to the participants. Detailed narratives are presented in Appendix. After each story, following the same procedure as the *Baseline* story, we explained the key test question to the participants and asked them to rate how happy each character was on the same four-point scale.

We presented adult participants with the same gender matched vignettes and questions as the ones shown to children, formatted as an online survey using Qualtrics. Participants were told at the beginning that the scenarios were mainly intended to be used with children, but they should answer the questions as *they* would answer them, not the way they think *children* would answer them. Each participant was first presented with the *Baseline* story, followed by the *Nice* story and the *Mean* story in a randomized order. The stories and questions were the same as those we presented to children, except that we described the characters as men and women instead of boys and girls, and we used more adult-like activities (i.e., spending time with friends) to replace the child activities (i.e., playing with toys). Participants indicated how happy the main character was on the same four-point scale (1 = really not happy, 4 = really happy). Data, materials and R code for all studies reported in this article are available at https://osf.io/982wv/?view_only=f31c074a5b0848aab69d08f348216e27.

Results. Preliminary analyses indicated no effects of gender, race, age, or testing order in children and adults' responses for this study and subsequent studies reported in this article, so these variables were not included in subsequent analyses. We first examined adult responses to the scenarios. Adults attributed high levels of happiness to the characters in the *Baseline* story (*M* = 3.70). To examine whether adults' happiness judgment was affected by moral valence, we analyzed data via a linear mixed effects model predicting their ratings of happiness as a function of condition (nice vs. mean, contrast coded as −.5 vs. .5), with a random intercept for each participant. We found a main effect of condition (β = −1.48, 95% CI [−1.78, −1.19]). Adult participants rated the mean character (*M* = 2.13) as less happy compared to the nice character (*M* = 3.62), Figure 1. Consistent with previous studies (Newman et al., 2015; Phillips e al., 2011, 2014, 2017), this finding shows that moral judgment plays a role in adults' attributions of happiness.[1]

To examine the development of this view of happiness, we conducted a linear mixed effects model predicting children's happiness ratings as a function of condition (nice vs. mean, contrast coded as −.5 vs. .5), age (in years), and the interaction between them, with a random intercept for each participant. We found a main effect of condition (β = −1.73, 95% CI [−2.20, −1.27]). Children rated the mean character (*M* = 2.10) as less happy than the nice character (*M* = 3.83). We did not find an effect of age (β = .12, 95% CI [−.01, .25]) or interaction between age and condition (β = .21, 95% CI [−.04, .47]) for our scenarios. Using age as a dichotomous variable (younger vs. older, contrast coded as −.5 and .5) yielded similar results (age group: β = .27, 95% CI [−.19, .73]; age Group X condition: β = .40, 95% CI [−.5, 1.31]). These results suggest that even our youngest participants, children as young as 4 or 5 years old, attribute happiness in ways that are not purely based on information about subjective states.

Study 1b

Our initial results suggest that similar to adults, moral judgment plays a role in happiness attributions even among children under age 7. In order to ensure that this effect is present among young children, we recruited more participants to double our initial sample size for both age groups.

Method.

Participants. We recruited 15 more 4- to 6-year-olds (*M* age = 5.11 years, *SD* = .97 years, *range* = 4.01 to 6.92) and 15 more 7- to 9-year-olds (*M* age = 8.95 years, *SD* = 0.65 years, *range* = 7.63 to 9.99) to double our initial sample size. Data collection was stopped when this sample size was met.

Design and Procedure. We followed the same procedure as in Study 1a.

[1] In a separate sample of adults (*N*=100), we examined whether adults explicitly think happiness is intrinsically about moral goodness and would explicitly transmit the view to children. We found the majority of adults only mentioned subjective states (and very rarely mentioned more moral-evaluative states) when explaining "what is happiness" to children (full methods and results of this study are included in online supplemental materials).

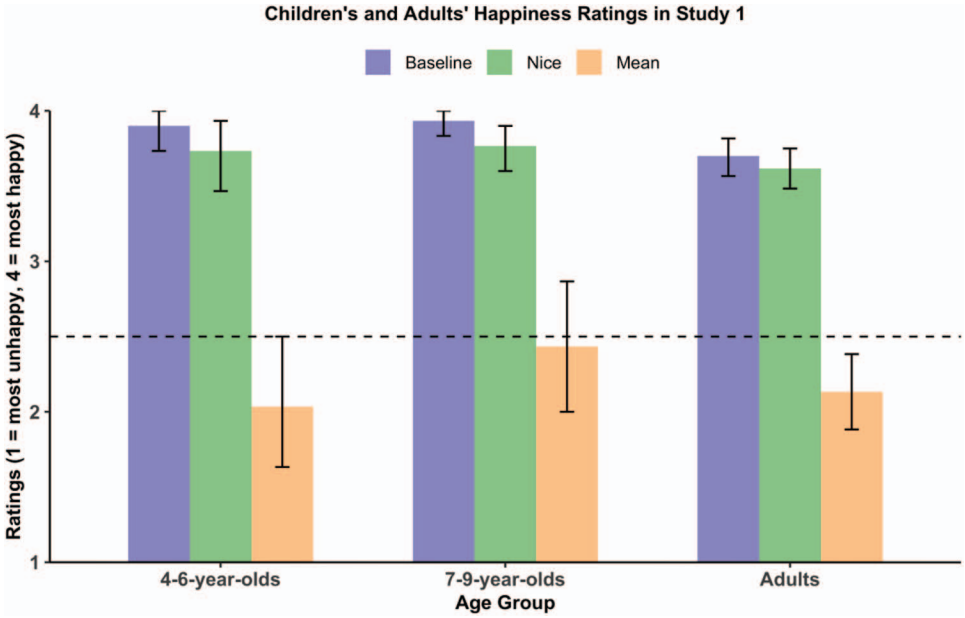

Figure 1. Children's (N = 60) and adults' (N = 60) ratings of happiness for the baseline, nice and mean characters in Study 1. Error bars are bootstrapped 95% confidence intervals. See the online article for the color version of this figure.

Results. Preliminary analyses indicated no differences between children's responses in the initial sample and the added sample, and we combined the two samples in our subsequent analyses. Similar to Study 1a, children rated the neutral character in the *Baseline* scenario as very happy (M = 3.92). To examine whether moral judgment plays a similar role in younger and older children's happiness attributions in our full sample, we conducted a linear mixed effects model predicting children's happiness ratings as a function of condition (nice vs. mean, contrast coded as −.5 vs. .5), age (in years), and the interaction between them, with a random intercept for each participant. We found a main effect of condition (β = −1.52, 95% CI [1.86, −1.17]); children rated the mean character (M = 2.10) as less happy than the nice character (M = 3.83). We did not find an effect of age group (β = .22, 95% CI [−.14, .58]) or interaction between age group and condition (β = .37, 95% CI [−.31, 1.05]). Using age as a continuous variable (younger vs. older, contrast coded as −.5 and .5) yielded similar results (age: β = .08, 95% CI [−.02, .17], age X condition: β = .13, 95% CI [−.05, .30]), Figure 1. Focusing only on the youngest participants, we found that they rated the mean character (M = 2.03) as less happy than the nice character (M = 3.73), β = −1.70, 95% CI [−2.20, −1.20]. Taken together, these results suggest that moral judgment influences happiness attributions from very early in life.

Study 2

Is the role of moral judgment in happiness attributions a part of a more general tendency for moral character to affect positive trait attribution in general? Here we examine this possibility by inviting children and adults to attribute a positive *physical* trait to characters who differ in moral character.

Method

Participants. Similar to Study 1, 30 4–9-year-old children participated in this study (M age = 6.68 years, SD = 1.92 years, *range* = 3.40 to 10.06, female = 11). Of the 30 participants, 15 were in the younger group, 4- to 6-year-olds (M age = 5.11 years, SD = 1.02 years, *range* = 3.40 to 6.68), and 15 were in the older group, 7- to 9-year-olds (M age = 8.26 years, SD = 1.15 years, *range* = 7.00 to 10.06). Children were recruited in a campus lab and at two local museums. A sample of 60 adults were recruited on MTurk, three of whom did not complete all questions and additional three participants were recruited (M age = 32.81 years, SD = 8.49, *range* = 22–57, female = 21).

Design and procedure. We conducted a pretest with a separate sample of children (N = 20, *Mean age* = 6.5 years, *range* = 3.5 to 10.5) about their attitudes toward the ability to run fast. We found that the majority of children wanted to be able to run fast instead of slowly (90%) and liked faster individuals more than slow individuals (80%), suggesting that the physical ability to run fast is a salient positive trait to children. We used similar materials and procedure as in Study 2 to examine children's judgment of speed for different characters. Each child first heard a *Baseline* story involving a neutral child who was described as able to run at high speeds. We explained to children that we were interested to know what they thought about the character and asked them to indicate how fast the character was on a four-point pictorial scale (1 = really not fast, 4 = really fast). All children understood the story well and indicated the character as being quite fast (M = 3.93). After this familiarization phase, the child heard one *Nice* story and one *Mean* story in a randomized order, each involving a character who was able to run at high speeds, but one character was nice and the other character was mean. The detailed narratives

are presented in Appendix. After hearing each story, the child indicated how fast the main character was on the four-point pictorial scale. Adult participants were presented with similar scenarios and responded to the same questions. The key question of interest is whether children and adults would evaluate the nice and the mean characters as equally fast or not.

Results

Similar to our analysis in Study 1, to examine whether children's speed judgment was affected by moral valence, we analyzed data via linear mixed effects models predicting children's ratings of speed as a function of condition (nice vs. mean, contrast coded as −.5 vs. .5), age (in years) and the interaction between them, with a random intercept for each participant. Similar to Study 1, there was no effect of age (β = −.02, 95% CI [−.15, .11]) or interaction between age and condition (β = −.01, 95% CI [−.18, .16]). But in contrast to what we found in Study 1, we did not find an effect of condition (β = −.13, 95% CI [−.45, .18]) in predicting children's attributions of speed, Figure 2. Children rated the mean character (M = 3.53) as fast as the nice character (M = 3.67). Using age as a dichotomous variable (younger vs. older, contrast coded as −.5 and .5) yielded similar results (age group: β = −.07, 95% CI [−.55, .41]; age Group X condition: β = −.13, 95% CI [−.76, .49]), Figure 2. A separate analysis for adult ratings revealed no effect of condition (β = .03, 95% CI [−.15, .22]) in their attributions of speed either, see Figure 2. Therefore, children and adults did not attribute speed based on moral information, suggesting the role of moral judgment in happiness attributions is not a general tendency to attribute traits based on the valence of a person's moral character.

Study 3

Another possible explanation of our findings is that moral character indirectly influences our attributions of happiness by altering perceptions of subjective experiences (e.g., more spontaneous attributions of negative feelings to morally bad agents than morally good agents). To evaluate this possibility, we pitted feelings against moral character, such that the nice character feels sad most of the time and the mean character feels good most of the time. We also included a comparison scenario in which a physical trait varies instead of a moral trait.

Method

Participants. To examine potential developmental changes, we recruited a sample of 30 children of a wide range of ages (M age = 6.76 years, SD = 2.05 years, *range* = 3.92 to 11.15, female = 19) like in previous studies. Data collection was stopped when the predetermined sample size was met. Children in this study were recruited and tested in a campus lab and at a local museum. A sample of 60 adults were recruited from MTurk (M age = 36.93 years, SD = 13.96, *range* = 21–84, female = 29).

Design and procedure. Each child heard the two stories in a randomized order. Two smiling child cartoon characters were displayed side by side on a laptop while the child heard each story, gender matched to the participants. In the *Moral* scenario, one character is nice and the other character is mean, but the mean character has more good feelings than the nice character. In the *Physical* scenario, one character is fast and the other character is slow, but the slow character has more good feelings than the fast character. The specific story narratives are in Appendix. Children were asked to identify the characters immediately after hearing each story: "Based on what I just told you, can you tell me who has

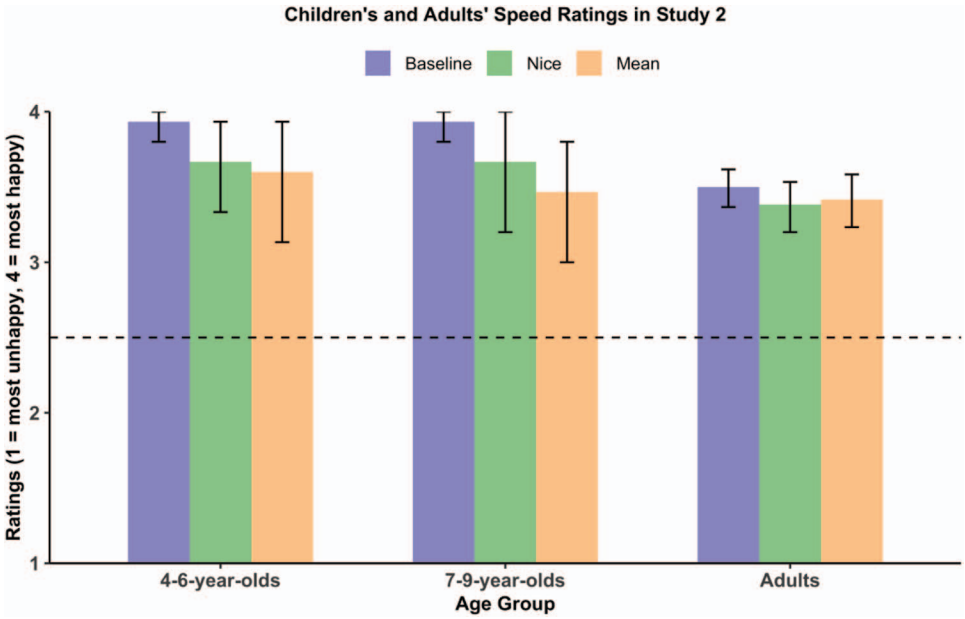

Figure 2. Children's and adults' ratings of speed for the baseline, nice and mean characters in Study 2. Error bars are bootstrapped 95% confidence intervals. See the online article for the color version of this figure.

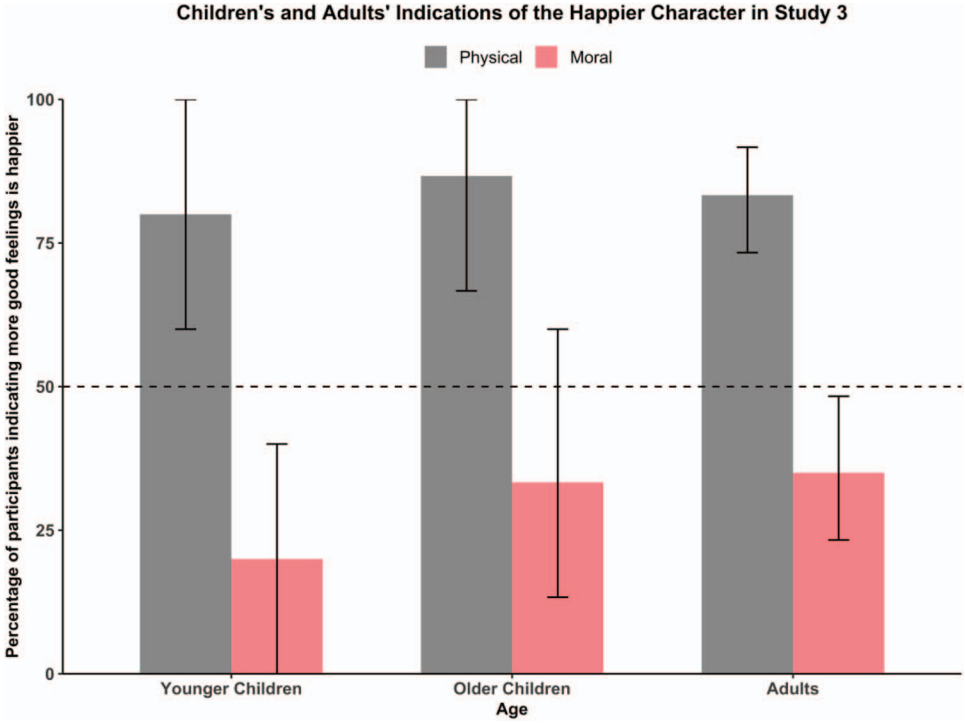

Figure 3. Children's and adults' indications for the happier character in the *Moral* and *Physical* conditions in Study 3. Children's data are presented by median split of age (*M* younger group = 5.16 years and *M* older group = 8.35 years). Error bars are bootstrapped 95% confidence intervals. See the online article for the color version of this figure.

more good feelings?" and "based on what I just told you, can you tell me who is nicer"? The majority of children answered these questions right. Feedback was given on any incorrect answers and children confirmed the information before proceeding. After hearing each story, like in previous studies, children were told that we were interested in what they thought about the characters and asked to indicate which character was happier. In other words, the measure in this study was slightly different from the one used in previous studies in that participants were not asked to assess the happiness of each character separately but were instead asked which of them was happier. Adult participants completed the same stories and questions online.

Results

Responses were coded as 1 if participants indicated the character with more good feelings (i.e., "mean" and "slow" characters) as being happier, and their responses were coded as 0 if they indicated the character with fewer good feelings (i.e., "nice" and "fast" characters) as being happier.

We used a mixed logistic regression model to predict children's choices as a function of condition (physical vs. moral, contrast coded as −.5 and .5), age (in years) and the interaction between them, with a random intercept for each participant. We found a main effect of condition ($\beta = -2.90$, 95% CI [−5.07, −.73]) in predicting children's choices. There were no effects of age ($\beta = .21$, 95% CI [−.17, .58]) or interaction between age and condition ($\beta = -.24$, 95% CI [−.96, .49]). For the *Physical* scenario, children rated the slow character with more good feelings as being happier ($M = .84$, binomial test, 95% CI [.65, .94]), suggesting they did not discount information about subjective experiences as a strong basis of happiness. In contrast, for the *Moral* scenario, children rated the nice character with *fewer* good feelings as being happier ($M = .25$, binomial test, 95% CI [.12, .46]), suggesting that moral character has a unique effect on their attributions of happiness. A separate analysis on the adult data revealed a similar main effect of condition in predicting their ratings: $\beta = -2.64$, 95% CI [−4.02, −1.25]. Adults rated the slow character with more good feelings as being happier ($M = .83$, binomial test, 95% CI [.71, 92]), but rated the nice character with *fewer* good feelings as being happier ($M = .35$, binomial test, 95% CI [.23, .48]), Figure 3. These results conceptually replicate the results in Study 1, as well as revealing that moral character information is weighted more heavily than descriptive information in children and adults' attributions of happiness.

Study 4

Our findings from Study 4 suggest that moral character was weighted more heavily than subjective states in happiness attributions. In this study we aim to replicate this key finding in a preregistered study with a larger sample size, as well as to further explore the boundary of the effect. In other words, do other positive psychological traits besides morality play a role in happiness attributions? To test this question we turn to the trait of intelligence. Children and adults perceive intelligence as a highly

positive trait that is essential to personal identity (e.g., Gelman, Heyman, & Legare, 2007; Strohminger & Nichols, 2015). Thus we compared whether moral character (*Moral* condition) and intelligence (*Smart* condition) have similar influences on happiness attributions.

Method

Participants. We recruited 120 children and 120 adults, who were randomly assigned to either the *Moral* condition or the *Smart* condition. Among the 120 child participants, 60 were 4–6-year-olds (*M* age = 5.59 years, *SD* = .83 years, *range* = 4.03 to 6.98, female = 34) and 60 were 7–9-year-olds (*M* age = 8.25 years, *SD* = .85 years, *range* = 7.01 to 9.99, female = 36), which doubled the sample size of 30 per condition in Study 4. The 120 adult participants were recruited from MTurk (*M* age = 34.58 years, *SD* = 10.33 years, *range* = 18 to 64, female = 59).

Design and procedure. Each child heard either the *Moral* scenario or the *Smart* scenario. Two smiling child cartoon characters were displayed side by side on a laptop while the child heard each story, gender matched to the participants. To examine the robustness of the previous results, we made two modifications to the *Moral* scenario in Study 4: We changed "feel sad" to "feel bad" so that it was a better contrast to "feel good" and both scenarios used the same wording. We also emphasized that the mean character steals other children's toys "without being caught," which allowed us to ensure that children didn't attribute unhappiness to the immoral character because they thought they had been caught and punished. In the *Smart* scenario, one character is smart and the other character is not smart, but the not smart character has more good feelings than the smart character. (See Appendix for complete story narratives.) As in previous studies, after hearing each story, children were told that we were interested in what they thought about the characters and asked to indicate which character was happier. We also asked whether that character was "a tiny bit happier, a little bit happier, or a lot happier" than the other character (yielding a 6-point continuous measure). Adult participants completed the study online in the format of a Qualtrics survey. The stories and the questions were the same as those in the child study, except that we referred to the characters as "person" instead of "child."

Results

The study design and analysis plan were preregistered at https://aspredicted.org/cf4ei.pdf. Similar to Study 4, choice responses were coded as 1 if participants indicated the character with more good feelings (i.e., "mean" and "not smart" characters) as being happier, and their responses were coded as 0 if they indicated the character with fewer good feelings (i.e., "nice" and "smart" characters) as being happier. Participants' ratings were coded on a 6-point scale (1 = the person with fewer good feelings as a lot happier, 6 = the person with more good feelings as a lot happier).

We first used a logistic regression model to predict children's choices as a function of condition (smart vs. moral, contrast coded as −.5 and .5), age group (younger vs. older, contrast coded as −.5 and .5) and the interaction between them. We found a main effect of condition ($\beta = -2.20$, 95% CI [−3.06, −1.40]) in predicting children's choices. We did not find an effect of age group ($\beta = .53$, 95% CI [−.30, 1.39]) or an interaction between age group and condition ($\beta = -.32$, 95% CI [−2.02, 1.37]). We analyzed the continuous ratings using a linear regression model and found similar results: there was a main effect of condition ($\beta = -2.35$, 95% CI [−3.06, −1.64]) but no effect of age group ($\beta = .42$, 95% CI [−.29, 1.13]) or their interaction ($\beta = .03$, 95% CI [−1.38, 1.45]) in predicting children's ratings. Using age as a continuous variable did not change the results of either choices (age: $\beta = .07$, 95% CI [−.20, .34], age*condition: $\beta = -.29$, 95% CI [−.85, .24]) or ratings (age: $\beta = .07$, 95% CI [−.16, .30], age*condition: $\beta = -.16$, 95% CI [−.62, .30]). A separate analysis on the adult data revealed a similar main effect of condition in predicting choices ($\beta = -3.13$, 95% CI [−4.22, −2.17]) and ratings ($\beta = -2.58$, 95% CI [−3.17, −1.99]).

For the *Moral* scenario, replicating previous findings in Study 4, both children (*M* = .23, binomial test, 95% CI [.13, .36]) and adults (*M* = .28, binomial test, 95% CI [.17, .41]) indicated the nice person with *fewer* good feelings as being happier, suggesting morality was weighted more heavily than subjective feelings in happiness attributions. In contrast, for the *Smart* scenario, children (*M* = .73, binomial test, 95% CI [.60, .84]) and adults (*M* = .90, binomial test, 95% CI [.79, .96]) rated the not smart character with more good feelings as being happier, Figure 4. Therefore, intelligence did not override subjective experiences as the basis of happiness attributions despite that the fact that it is a central positive trait. These results reveal a boundary condition of the previous findings, suggesting that moral character has a unique effect on children and adults' attributions of happiness.

Study 5

Studies 1–4 suggest that children and adults' attributions of happiness are influenced by moral information from very early in life. In Study 5 we ask whether it also appears in a different cultural-linguistic context. In English, the word "happy" is often used to describe a person's emotional states, but it is also used evaluatively to convey moral or fortunate circumstances (e.g., "a happy life") (Happy, 2018a, 2018b). Does this dual usage contribute to our views of happiness?

Mandarin provides an ideal test case to examine this possibility due to two distinct words corresponding to the English word "happy," "Kuai Le" and "Gao Xing" (Happy, 2018c). Both are commonly used to describe positive emotional states, though "Gao Xing" has higher frequency (a search of the phrases "I feel Kuai Le" and "I feel Gao Xing" yields 4,310,000 and 13,700,000 results respectively on the Chinese search engine BaiDu, December 17th, 2018). Critically, "Kuai Le" is also frequently used in evaluative contexts (e.g., he lived a Kuai Le life), whereas "Gao Xing" is reserved for describing feelings (a search for the phrase "a Kuai Le life" yields 1,920,000 results whereas "a GaoXing life" only yields 659; Google search results, December 17th, 2018). To investigate whether happiness attributions are influenced by word meanings, we compared native Chinese responses to our previous stories using both words.

Prior to running this study, we predicted that moral information would play a more important role in influencing attributions of "Kuai Le" than attributions of "Gao Xing."

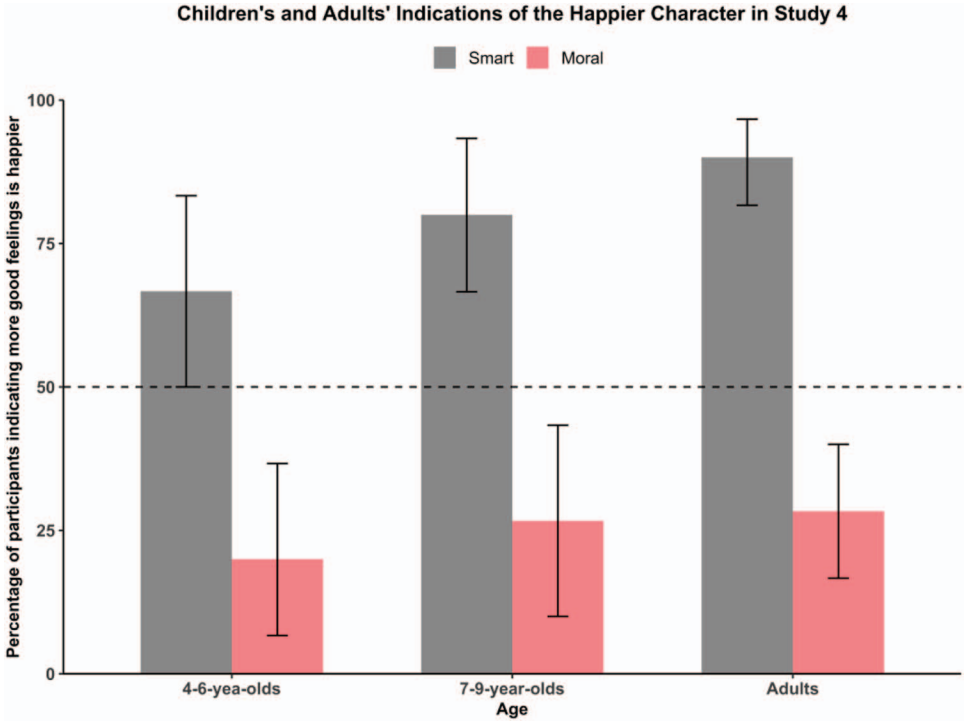

Figure 4. Children's and adults' indications for the happier character in the *Moral* and *Smart* conditions in Study 4. Error bars are bootstrapped 95% confidence intervals. See the online article for the color version of this figure.

Method

Participants. We recruited a total of 421 Chinese adults (*M* age = 31.48 years, *SD* = 7.52 years, *range* = 18–60, female = 185) from the online survey platform "Sojump" (https://www.wjx.cn/), a crowdworker site similar to Amazon Mechanical Turk. The majority of the users are from major cities in China, and more than half of them with college degrees.

Design and procedure. We followed the same online procedures as in Study 1 and Study 4. The first author translated the English materials in Study 1 (The *Baseline*, *Nice* and *Mean* scenarios) and Study 4 (the *Moral* and *Physical* scenarios) to Chinese; a second bilingual speaker back-translated the materials to ensure accuracy and comprehensibility of the translation. To examine how Chinese adults judge happiness using the two different words, we translated the questions of each story into two versions (i.e., "Kuai Le" vs. "Gao Xing"). Each participant was randomly assigned to one of four scenarios: 2 (Scenario type: single character vs. two-character) × 2 (Word: "Kuai Le" vs. "Gao Xing"), resulting in 106 adults in the single character "Kuai Le" scenario and 105 adults in each of the other 3 scenarios.

Results

For the single character stories, a rating of 1 meant the character was judged as least "Kuai Le" or "Gao Xing," and a rating of 4 meant the character was judged as most "Kuai Le" or "Gao Xing." For the two-characters stories, responses were coded as 1 if people indicated the character with more good feelings (i.e., "mean" and "slow" characters) as being "Kuai Le" or "Gao Xing," and their responses were coded as 0 if they indicated the character with fewer good feelings (i.e., "nice" and "fast" characters) as being "Kuai Le" or "Gao Xing."

We first examined people's responses to the single character scenarios. Similar like American participants, Chinese participants also attributed high levels of happiness ("Kuai Le" and "Gao Xing") to the neutral characters in the *Baseline* story (*Ms* = 3.36). We then examined people's judgment of "Kuai Le" and "Gao Xing" on the *Nice* and *Mean* stories, via a linear mixed effects model predicting their ratings as a function of condition (nice vs. mean, contrast coded as −.5 vs. .5) and word type ("Kuai Le" vs. "Gao Xing," contrast coded as −.5 vs. .5), with a random intercept for each participant. We found a main effect for condition ($\beta = -.94$, 95% CI [−1.08, −.80]). Overall, Chinese participants rated the mean character (*M* = 2.53) as lower on happiness ("Kuai Le" and "Gao Xing") than the nice character (*M* = 3.47), suggesting that like American people, Chinese people's attributions of happiness also are not purely based on descriptive emotional states. Surprisingly, contrary to our prediction, despite the fact that the word "Gao Xing" is substantially more limited to descriptive usages than the word "Kuai Le," there was no effect of word type ($\beta = .05$, 95% CI [−.09, .20]) or interaction between word type and condition ($\beta = .25$, 95% CI [−.03, .53]), Figure 5.

We conducted a separate mixed logistic regression model to predict people's choices on the two-characters stories as a function of scenario (moral vs. physical, contrast coded as .5 and −.5), word type (Kuai Le vs. Gao Xing, contrast coded as −.5 and .5)

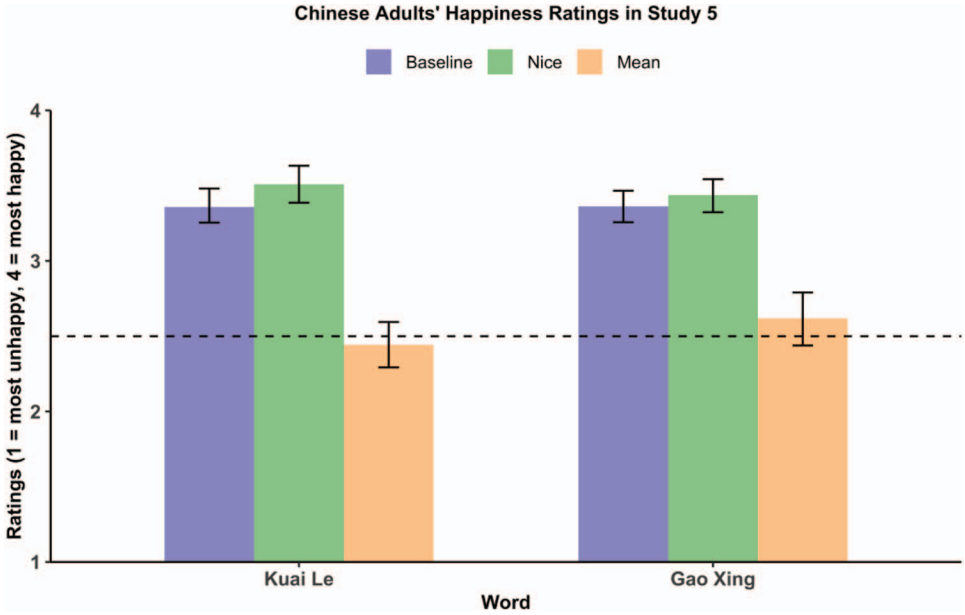

Figure 5. Chinese adults' ratings of happiness ("Kuai Le" and "Gao Xing") for the nice versus mean characters in Study 5. Error bars are bootstrapped 95% confidence intervals. See the online article for the color version of this figure.

and the interaction between them, with a random intercept for each participant. We found a main effect of scenario ($\beta = -2.21$, 95% CI [−2.82, −1.61]). In the *Physical* scenario, people rated the slow character with more good feelings as being happier ($M = .79$, binomial test, 95% CI [.72, .84]). In the *Moral* scenario, however, people rated the nice character with fewer good feelings as being happier ($M = .33$, binomial test, 95% CI [.60, .73]). Again, there were no effects of word type ($\beta = -.01$, 95% CI [−.49, .48]) or interaction between word type and scenario ($\beta = .11$, 95% CI [−.80, 1.02]), Figure 6. Therefore, despite the fact that "Gao Xing" is generally limited to descriptive usages, people's attributions of happiness were similar using the two words. These findings do not support the view that the happiness concept originates from the linguistic use of the English word "happy."

General Discussion

Across five studies we explored the nature and origins of the happiness concept developmentally and cross-linguistically. We find that children as young as four viewed morally bad people as less happy than morally good people, even if the individuals have similarly positive feelings (Study 1). Moral character did not influence children and adults' attributions for other positive traits (Study 2), and was weighted even more heavily than subjective experiences in attributions of happiness (Study 3). Further establishing that these findings are not highly general, moral character but not intelligence influenced children and adults' happiness attributions (Study 4). Finally, cross-linguistic evidence shows that moral judgment played a similar role in the attributions of happiness using two distinct words of happiness, despite the fact that the normal usage of one word (i.e., "Gao Xing") is much more descriptive than the other (i.e., "Kuai Le") (Study 5). These findings reveal the unique and early emerging role of moral judgment in happiness attributions and suggest that our view of happiness is not purely descriptive from very early in life.

Our findings shed light on questions about the psychological mechanisms underlying the impact of evaluative considerations on happiness attributions. Given that the effect emerges surprisingly early, it seems unlikely that children come to learn it through extensive real life experiences, for example, by observing that agents who perform morally bad actions often seem to be happy on the surface but feel bad deep down. In this way, the effect is in dramatic contrast with the "happy victimizer" phenomenon, where young children attribute good feelings to people who get what they want through moral transgressions but only older children say that people who engage in such transgressions are not fully happy (Arsenio & Kramer, 1992). This latter phenomenon has been shown to emerge later in development. Similarly, both the developmental results and the cross-cultural results suggest that this effect is not merely a matter of children gradually mastering the idiosyncrasies of a concept that just happens to have emerged within one specific culture.

The early emergence of the effect suggests it may also reflect something basic about cognition. For example, one hypothesis would be that this occurs because happiness is a "dual character concept" (e.g., Knobe, Prasada, & Newman, 2013). For such concepts (e.g., scientist), people not only represent the concrete features (e.g., running experiments and writing papers), but also view these features as realizing abstract values (e.g., the pursuit of knowledge). In much the same way, the concept of happiness might involve not only concrete features (feeling good) but also a deeper value (having a morally good life). Recent evidence suggests children as young as four represent dual-character concepts (Foster-Hanson & Rhodes, 2019). It will be interesting to examine

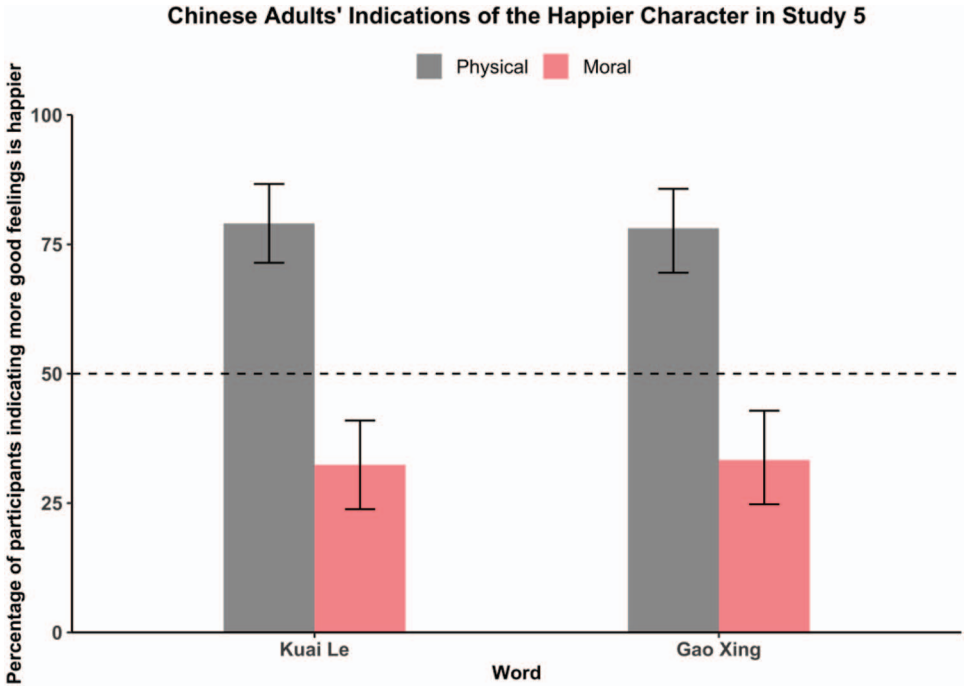

Figure 6. Chinese participants' indications for the happy ("Kuai Le" and "Gao Xing") character in the *moral* and *physical* scenarios in Study 5. Error bars are bootstrapped 95% confidence intervals. See the online article for the color version of this figure.

whether representations of dual-character concepts and attributions of happiness are linked during development.

Of course, even on a hypothesis like this one, there would still be a crucial role for learning. It's just that the learning would not be a matter of acquiring an idiosyncratic concept that happened to emerge in one specific culture; rather, it would be a matter of learning that the concept of happiness is a concept that has a particular type of structure (e.g., a dual character concept). Further research could explore the question of how children acquire this sort of understanding of the concept. To give one example, it is instructive that people use the English word "good" both to describe a certain kind of moral character ("morally good") and to describe a certain kind of psychological state ("feeling good"). Perhaps linguistic cues like this one give children a hint about the structure of the relevant concepts. Discourse analysis of adult-child conversations may provide an ecologically valid window into the implicit learning process.

It is important to note that our results do not imply that moral character is the *only* basis for happiness attributions. Instead, subjective state *is* perceived as a strong basis for happiness. As shown in our baseline scenario (Study 1), physical scenario (Studies 2 and 5) and the intelligence scenario (Study 4), children and adults do base their happiness attributions on subjective states when moral judgment is not relevant and when subjective information is the primary information available. This is in line with previous studies, which also found that adults did not judge a nice person with only negative feelings as happy (Phillips et al., 2011). What our results suggest is that moral character plays an important role in influencing happiness attributions, and when pitted against subjective state, moral character is weighted even more heavily than subjective states in our happiness concept, but observers are also clearly sensitive to subjective states.

Our examination of the boundary of the effect shows that moral judgment, but not other positive traits (intelligence or physical traits), played a role in children and adults' attributions of happiness. This suggests that we do not just have a general tendency to associate happiness with positive traits in general, but that moral character is central to our concept of happiness. We focused on happiness because it is the most common and early emerging positive emotion, whose nature has been debated extensively and studied empirically, but it will also be informative to examine whether normative evaluations might affect judgments of other emotions, or mental states in general. Existing adult work has explored people's attributions of positive affect and conceptions of negative emotions (e.g., unhappiness) and did not find similar effects (e.g., Phillips et al., 2011, 2017), but it has been found that normative evaluations play a role in intentionality judgments—children and adults judge negative side effects as more intentional than positive side effects (Leslie, Knobe, & Cohen, 2006; Michelin, Pellizzoni, Tallandini, & Siegal, 2010; Pellizzoni, Siegal, & Surian, 2009; Rakoczy et al., 2015). Conceivably, if morality plays a role in happiness (a nonmoral emotion), then it is possible that emotions that have a moral component (e.g., compassion, empathy, love) or positive emotions that overlap with happiness (e.g., joy) may also have a link to morality. More broadly, it is also possible that morality might play a role in affecting attributions of a wide range of positive traits, unless that trait is clearly based on an objective standard (e.g., speed is based on how fast a person can run). Future studies systematically investigating the effects of moral judgments on a wide range of positive trait attributions may

help shed light on the nature and breadth of these cognitive representations.

Finally, our studies focused on children and adults' attributions of happiness as third person spectators, and a fascinating unknown question is whether self-attributions would follow a similar pattern across development: does moral judgment regarding one's own actions affect children and adults' views of their own happiness? On the one hand, it is possible that children and adults might be able to take a spectator view of themselves, so that they evaluate their own behaviors and happiness in similar ways as they evaluate other people, and attribute lower levels of happiness to themselves if they regard their own actions as less morally good. On the other hand, the subjective immediacy of first-person feelings of happiness might mean that individuals put more weight on hedonic feelings when making first-person attributions of happiness, and thus moral judgment might play a less significant role when judging one's own happiness. Examining self-attributions of happiness and its potential developmental changes may contribute to a more complete view of how people understand happiness, as well as have implications for promoting subjective happiness and well-being among children and adults.

In conclusion, we found that moral judgment plays a fundamental role in our happiness conception, which is surprisingly early emerging and robust across ages, cultures, and languages. These findings thus not only contribute to a better understanding of the nature and origins of our happiness concept, but also uncover the unique role of morality in perceived happiness as a fundamental cognitive feature of the mind. Therefore, the answer to the ancient question "what is happiness" is actually within us from early in life: Happiness is more than just good feelings; it arises from goodness in the soul.

Context of the Research

Our project was part of the larger Happiness and Well-Being Project supported by the John Templeton Foundation. Previous research has shown that moral judgment plays a role in happiness attributions among adults, and we thought investigating the effect among children (a stereotypically hedonic-oriented population) would help illuminate the underlying mechanisms as well as robustness of the effect. Based on the "happy victimizer phenomenon," we strongly expected an age effect and even hypothesized potential predictors for the age effect, but it turned out to be a surprisingly early effect. The cross-linguistic study was inspired by a conversation with the first author's bilingual 3-year-old son. When asked what happiness was, he replied "happiness is Gao Xing" (a purely descriptive word reserved for describing people's inner feelings). This stimulated the authors to investigate whether the effect of moral judgment would depend on the descriptiveness of the word or not. The findings together reveal the fundamental role of moral judgment in happiness attributions developmentally and cross-linguistically, and thereby contribute to a better understanding of the nature and origins of our happiness concept.

References

Arsenio, W. F., & Kramer, R. (1992). Victimizers and their victims: Children's conceptions of the mixed emotional consequences of moral transgressions. *Child Development, 63,* 915–927. http://dx.doi.org/10.2307/1131243

Díaz, R., & Reuter, K. (2020). Feeling the right way: Normative influences on people's use of emotion concepts. *Mind & Language*. Advance online publication. http://dx.doi.org/10.1111/mila.12279

Diener, E. (2000). Subjective well-being. The science of happiness and a proposal for a national index. *American Psychologist, 55,* 34–43. http://dx.doi.org/10.1037/0003-066X.55.1.34

Foot, P. (2003). *Natural goodness*. Oxford, England: Clarendon Press.

Foster-Hanson, E., & Rhodes, M. (2019). Normative social role concepts in early childhood. *Cognitive Science, 43,* e12782. http://dx.doi.org/10.1111/cogs.12782

Gelman, S. A., Heyman, G. D., & Legare, C. H. (2007). Developmental changes in the coherence of essentialist beliefs about psychological characteristics. *Child Development, 78,* 757–774. http://dx.doi.org/10.1111/j.1467-8624.2007.01031.x

Happy. (2018a). *In Longman dictionary of contemporary English*. Retrieved from https://www.ldoceonline.com/dictionary/happy

Happy. (2018b). *In Merriam-Webster's collegiate dictionary*. Retrieved from https://en.oxforddictionaries.com/definition/happy

Happy. (2018c). *Translations in YouDao dictionary*. Retrieved from http://dict.youdao.com/w/eng/happy/#keyfrom=dict2.index

Harter, S., & Whitesell, N. R. (1989). Developmental changes in children's understanding of single, multiple, and blended emotion concepts. In C. Saarni & P. Harris (Eds.), *Children's understanding of emotion* (pp. 37–50). New York, NY: Cambridge University Press.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience sampling method: Measuring the quality of everyday life*. Atlanta, GA: Sage.

Knobe, J., Prasada, S., & Newman, G. E. (2013). Dual character concepts and the normative dimension of conceptual representation. *Cognition, 127,* 242–257.

Leslie, A. M., Knobe, J., & Cohen, A. (2006). Acting intentionally and the side-effect effect. *Psychological Science, 17,* 421–427. http://dx.doi.org/10.1111/j.1467-9280.2006.01722.x

McMahon, D. M. (2006). *Happiness: A history*. New York, NY: Atlantic Monthly Press.

Michelin, C., Pellizzoni, S., Tallandini, M. A., & Siegal, M. (2010). Evidence for the side-effect effect in young children: Influence of bilingualism and task presentation format. *European Journal of Developmental Psychology, 7,* 641–652. http://dx.doi.org/10.1080/17405620902969989

Murgatroyd, S. J., & Robinson, E. J. (1993). Children's judgements of emotion following moral transgression. *International Journal of Behavioral Development, 16,* 93–111. http://dx.doi.org/10.1177/016502549301600106

Murgatroyd, S. J., & Robinson, E. J. (1997). Children's and adults' attributions of emotion to a wrongdoer: The influence of the onlooker's reaction. *Cognition and Emotion, 11,* 83–101. http://dx.doi.org/10.1080/026999397380041

Newman, G. E., De Freitas, J., & Knobe, J. (2015). Beliefs about the true self explain asymmetries based on moral judgment. *Cognitive Science, 39,* 96–125. http://dx.doi.org/10.1111/cogs.12134

Nunner-Winkler, G., & Sodian, B. (1988). Children's understanding of moral emotions. *Child Development, 59,* 1323–1338. http://dx.doi.org/10.2307/1130495

Oishi, S., Graham, J., Kesebir, S., & Galinha, I. C. (2013). Concepts of happiness across time and cultures. *Personality and Social Psychology Bulletin, 39,* 559–577. http://dx.doi.org/10.1177/0146167213480042

Pellizzoni, S., Siegal, M., & Surian, L. (2009). Foreknowledge, caring, and the side-effect effect in young children. *Developmental Psychology, 45,* 289–295. http://dx.doi.org/10.1037/a0014165

Phillips, J., De Freitas, J., Mott, C., Gruber, J., & Knobe, J. (2017). True happiness: The role of morality in the folk concept of happiness. *Journal of Experimental Psychology: General, 146,* 165–181. http://dx.doi.org/10.1037/xge0000252

Phillips, J., Misenheimer, L., & Knobe, J. (2011). The ordinary concept of happiness (and others like it). *Emotion Review, 3,* 320–322. http://dx.doi.org/10.1177/1754073911402385

Phillips, J., Nyholm, S., & Liao, S. Y. (2014). The good in happiness. *Oxford Studies in Experimental Philosophy, 1,* 253–293. http://dx.doi.org/10.1093/acprof:oso/9780198718765.003.0011

Rakoczy, H., Behne, T., Clüver, A., Dallmann, S., Weidner, S., & Waldmann, M. R. (2015). The side-effect effect in children is robust and not specific to the moral status of action effects. *PLoS ONE, 10,* e0132933. http://dx.doi.org/10.1371/journal.pone.0132933

Smith, C. E., Chen, D., & Harris, P. L. (2010). When the happy victimizer says sorry: Children's understanding of apology and emotion. *British Journal of Developmental Psychology, 28,* 727–746. http://dx.doi.org/10.1348/026151009X475343

Smith, C. E., & Warneken, F. (2014). Does it always feel good to get what you want? Young children differentiate between material and wicked desires. *British Journal of Developmental Psychology, 32,* 3–16. http://dx.doi.org/10.1111/bjdp.12018

Strohminger, N., & Nichols, S. (2015). Neurodegeneration and Identity. *Psychological Science, 26,* 1469–1479. http://dx.doi.org/10.1177/0956797615592381

Widen, S. C., & Russell, J. A. (2008). Children acquire emotion categories gradually. *Cognitive Development, 23,* 291–312. http://dx.doi.org/10.1016/j.cogdev.2008.01.002

Widen, S. C., & Russell, J. A. (2010). Children's scripts for social emotions: Causes and consequences are more central than are facial expressions. *British Journal of Developmental Psychology, 28,* 565–581. http://dx.doi.org/10.1348/026151009X457550d

Appendix

Scenarios in Studies 1–4

A. Scenarios in Study 1

Baseline Scenario

"I want to tell you about a boy named Peter. Peter likes to do things that most kids like, such as playing with toys and eating chocolate. Peter can do what he likes and gets what he wants. So most of time he feels really good. In the past, every night before he goes to bed, he feels he has had mostly good feelings for that day."

Nice/Mean Scenario

"*I want to tell you about a boy named Mike [Tom]. Mike [Tom] is always nice [mean] to other kids. Mike [Tom] likes to do things that are good [bad], such as sharing toys with others and helping others [stealing other children's toy and hitting others]. Mike [Tom] can do what he likes and gets what he wants. So most of time he feels really good. In the past, every night before he goes to bed, he feels he has had mostly good feelings for that day."*

B. Scenarios in Study 2

Baseline Scenario

"I want to tell you about a boy named Peter. Peter likes to do things that most kids like, such as playing with toys and eating chocolate. Peter can run at a high speed and get to places in a short time. So most of time he feels very quick. In the past, whenever there is a race at school, he is always the first to reach the finish line and wins the race."

Nice/Mean Scenario

"I want to tell you about a boy named Mike [Tom]. Mike [Tom] is always nice [mean] to other kids. Mike [Tom] likes to do things that are good [bad], such as sharing toys with others and helping others [stealing other children's toy and hitting others]. Mike [Tom] can run at a high speed and get to places in a short time. So most of time he feels very quick. In the past, whenever there is a race at school, he is always the first to reach the finish line and wins the race."

C. Scenarios in Study 3

Moral Scenario

"I want to tell you about two boys named Mike and Tom. Mike is a nice boy; he is always nice to others. Tom is not a nice boy; he is always mean to others. Mike likes to do things that are good. He spends most of his time helping other children in the hospital. He always feels sad for the children who are sick. Tom likes to do things that are bad. He spends most of his time stealing other children's things. He always feels good when playing with the things he steals. So most of the time Tom has more good feelings than Mike does. In the past, every night before they go to bed, Tom has more good feelings than Mike does for that day."

(*Appendix continues*)

Physical Scenario

I want to tell you about two boys named Sam and Peter. Sam is a fast boy; he always walks at a high speed. Peter is not a fast boy; he always walks at a low speed. Sam likes to do things that are quick. He spends most of his time going from places to places quickly. He always feels sad for not seeing things clearly when he passes by. Peter likes to do things that are slow. He spends most of his time going from places to places slowly. He always feels good for seeing things clearly when he passes by. So most of the time Peter has more good feelings than Sam does. In the past, every night before they go to bed, Peter has more good feelings than Sam does for that day.

D. Scenarios in Study 4

Moral Scenario

I want to tell you about two boys named Mike and Tom. Mike is a nice boy; he does things in nice ways. Tom is not a nice boy; he does not do things in nice ways. Mike always does good things. He spends most of his time helping other children in the hospital. He always feels bad for the children who are sick. Tom always does mean things. He spends most of his time stealing other children's things without being caught. He always feels good when playing with the things he steals. So most of the time Tom has more good feelings than Mike does. In the past, every night before they go to bed, Tom has more good feelings than Mike does for that day.

Smart Scenario

"I want to tell you about two boys named Sam and Peter. Sam is a smart boy; he does things in smart ways. Peter is not a smart boy; he does not do things in smart ways. Sam always learns things fast. He spends most of his time learning many different things. He always feels bad because learning so quickly makes everything boring for him. Peter always learns things slowly. He spends most of his time learning just a few things. He always feels good because learning so slowly makes everything interesting for him. So most of the time Peter has more good feelings than Sam does. In the past, every night before they go to bed, Peter has more good feelings than Sam does for that day."

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