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BRIEF REPORT

Feeling connected to younger versus older selves: The asymmetric impact of life stage orientation

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The concept of *life-stage orientation* is proposed. Youth is a period of time characterised by strong feelings and emotions, but weak reasoning and cognitive skill. Conversely, adulthood is characterised by strong rationality, but weak emotionality. Two studies revealed that merely bringing these concepts to mind changes real-time feelings and behaviour. Participants who were instructed to act like their "adult" selves exhibited greater self-control in a cold pressor test than control participants and those who acted like their "youth" selves (Experiment 1). However, being induced to feel connected to youth enhanced enjoyment for fun videos (Experiment 2). Hence, the extent to which people are oriented towards youth versus adulthood has asymmetric costs and benefits for the present. Connecting to youth boosts experiential capacities (in this case, enjoying oneself) at the cost of agency, whereas connecting to adulthood boosts agentic capacities (in this case, exerting will-power) at the cost of experience.

Keywords: Time; Self; Life stages; Enjoyment; Self-control.

> Young men … embrace more than they can hold, stir more than they can quiet
>
> Men of age … consult too long, adventure too little
>
> –Francis Bacon (1625), *Of Youth and Age*

Many people speak of their spirited days of youth and settled states of adulthood. This sentiment, however, is more than mere expression. Real psychological distinctions exist between people of younger versus older ages. In youth, mental capacities are dominated by *experience* (emotional capacities to feel, react and exhibit sensitivity), but in adulthood they are dominated by *agency* (cognitive capacities to think, reason and exhibit

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self-control). For example, across cultures, children typically display stronger emotional reactivity than middle-aged adults and rely more on feelings when making decisions; in contrast, adults are better able to restrain themselves and are more likely to rely on logic (Damon & Eisenberg, 1998; Green, Fry, & Myerson, 1994).

Although a wealth of research has examined actual developmental differences between individuals at these life stages, less research has focused on how simply thinking about youth or adulthood might influence feelings and behaviours in the present for people, in general. Likely stemming from their ontogenetic roots, the concept of youth is almost universally associated with feelings and emotions, and the concept of adulthood with thinking and cognitive skill (Gino & Desai, 2012; Gray & Wegner, 2009; Loughnan & Haslam, 2007; Woodrow, 1999). An online pilot study confirmed these associations in terms of experience and agency. Fifty Amazon Turk participants rated how much they associate eight "experience" words (*emotional*, *reactive*, *sensitive*, *easily moved*, *feeling*, *impulse*, *emotive*, *experiential*: α= .81) and eight "agency" words (*rational*, *strong-minded*, *proactive*, *cognitive*, *thinking*, *will-power*, *self-control*, *agentic:* α = .85) with either their "youth self" (n = 26) or "adult self" (n = 24). The words were adapted from prior work on experience and agency (Gray, Gray, & Wegner, 2007) and were each rated on a scale from 1 (*not at all*) to 7 (*very*). As expected, participants rated their youth selves as much more experiential (M = 5.12, SD = 0.74) than their adult selves (M = 4.04, SD = 0.92), $t(48) = 4.60$, $p < .001$, $d = 1.30$, but their adult selves as more agentic (M = 5.23, SD = 0.58) than their youth selves (M = 4.18, SD = 1.15), $t(48) = -4.02$, $p < .001$, $d = 1.15$. Reflecting a similar point, experience ratings were much higher than agency ratings within youth selves, whereas agency ratings were much higher than experience ratings within adult selves (ps < .001).

Accordingly, these associations for "experiential youth" and "agentic adulthood" could provide a novel framework from which to influence people's emotional and cognitive outcomes in real time. People tend to respond to their environments in ways that most closely "fit" their current mindsets and motivations (see Higgins, 2005). Prior research on time-related mindsets has revealed diverse effects of past–future orientation (Miles, Nind, & Macrae, 2010) and temporal scarcity (Carstensen & Mikels, 2005) on how people think, act and feel in the present. Extending these findings, people may more generally be sensitive to perceived *life stages* beyond thinking about any particular age or tense. Namely, bringing to mind youth and adulthood could influence behaviour in accord with their associated emotional and cognitive compositions. If this rationale is correct, then each mindset should afford distinct costs and benefits, depending on the given task at hand. Inducing people to feel connected to youth may enhance their experiential reactions, but not affect (or even undermine) their agentic abilities. By the same logic, inducing people to feel connected to adulthood may enhance capacities for agency, but not for experience.

These possibilities were tested by manipulating people to connect to their youth or adult selves, then presenting them with a task that involves a high degree of agency (Experiment 1) or experience (Experiment 2). In the current paper, one specific instantiation of agency was tested (the ability to exert self-control, as assessed via a cold pressor paradigm), as was one specific instantiation of experience (reactions to positive emotional stimuli, in this case fun videos). It was predicted that connecting to adulthood—not youth—may boost cold pressor performance, whereas connecting to youth—not adulthood—may boost experienced enjoyment for the videos.

EXPERIMENT 1

Thinking about adulthood enhances self-control

In Experiment 1, college students completed an agentic cold pressor task while focusing on their "past selves 10 years ago" (i.e., back to when they were about 8 years old, during a prototypic period of youth) or "future selves 10 years from now" (i.e., ahead to when they would be about 30 years old,

during a prototypic period of adulthood). It was predicted that role-playing as one's adult self would improve agentic performance.

Method

Participants

In individual laboratory sessions, 90 undergraduates (M_{age} = 18.84; 62.2% women; 66.7% Caucasian) participated in a study on imagination and role-playing in exchange for course credit.

Procedure

Sample size was determined by testing as many participants as possible before running out of subject pool hours (with the goal of 20–30 participants/cell). Data collection was tracked and terminated at an even 90 participants (30/cell) as the end of the term approached. The study occurred in a half-hour block, which included other unrelated surveys. Similarly, Study 2 (which was online) recruited enough participants, so at least 30 people could be theoretically assigned to each cell. All data exclusions, manipulations and measures are reported below for both studies.

Upon entering the laboratory, participants were presented with two identical blue 5-litre buckets. One bucket was filled with ice water (M_{temp} = 36.71°F) and the other was filled with room temperature water (M_{temp} = 77.18°F). As in prior work (see Vohs et al., 2008; Schmeichel & Vohs, 2009), an aquarium pump was installed at the bottom of the ice bucket that circulated the water to prevent warm pockets from forming. Before completing any other tasks, participants held their non-dominant hand in the room temperature bucket for 30 seconds to "practice for a similar task later on in the experiment", and to help ensure an equal starting skin temperature.

Next, participants were assigned to *youth*, *adult* or *control* conditions. In the youth and adult conditions, participants were asked to think about the person they "used to be 10 years ago" or "will be 10 years from now". Because the sample consisted entirely of college students, this manipulation presumably led participants to think about highly stereotypical periods of youth (childhood/adolescence) and adulthood (post-college work life), as designed. After indicating how old they would be and what year it would be at the given time point, they were asked to close their eyes for a minute and form an image of this self during a typical day during the given time. Specific descriptors of agency and experience were avoided to prevent demand (e.g., using the generic phrase "imagine who you used to be" rather than "what you used to *feel* or *think*").

After the thought induction, participants were asked to "role-play" as this youth or adult self and perform subsequent tasks as if this other self had come into the lab. This role-playing design was adapted directly from prior work on how people think about themselves over time (Pronin & Ross, 2006, Study 6). With this self in mind, participants were asked to hold their non-dominant hand in the ice bucket for as long as possible. This task is considered highly agentic because it requires strong self-control (Vohs et al., 2008). An experimenter who was blind to the hypothesis timed how long they lasted. A cut-off of 4 minutes was set to avoid overexposure. Importantly, at no point were participants instructed how to act or given specific details about how to perform on the task; they were armed only with their freely generated images of youth or adulthood. Procedures were identical for control participants, except that their imagination task involved spending a minute thinking about how they might behave in various unrelated studies.

Afterwards, participants in the youth and adult conditions rated how difficult it was to imagine their other selves and to role-play as them, each rated from 1 (*not very*) to 7 (*very*). They also answered two questions designed to mimic their behavioural performance: "How painful would this self have found the task?" and "How long would this self have lasted?", rated from 1 (*much less than me now*) to 7 (*much more than me now*). Finally, all participants provided demographic information and were debriefed. Three extreme outliers were eliminated: two control participants who lasted all 4 minutes and one "adult" participant who lasted well over 3 minutes (N = 87).

Results and discussion

There were no differences in the temperature of the ice bucket between conditions (p = .73) or in the room temperature bucket between conditions (p = .56). Thus, data were submitted to one-way analysis of variance (ANOVA) analyses with condition (youth, adulthood or control) as the independent variable and time spent in the ice bucket as the dependent variable.

As predicted, there was a significant effect of condition, $F(2, 86) = 16.28$, $p < .001$, $\eta^2 = .28$. Planned contrasts revealed that participants in the youth condition spent significantly *less* time in the ice bucket (M_{sec} = 17.53, SD_{sec} = 9.12) than participants in the control condition (M_{sec} = 29.77, SD_{sec} = 14.82), $t(84) = 3.39$, p = .001. Participants in the adult condition, however, spent significantly *more* time in the ice bucket than control participants (M_{sec} = 37.79, SD_{sec} = 16.40), $t(84) = 2.20$, p = .03. Further, mimicking these behavioural results, participants reported that their youth selves would have felt more pain (M = 4.80, SD = 1.19) than their adult selves (M = 3.45, SD = 1.24), $t(57) = 4.28$, $p < .001$, and that their adult selves would have lasted longer (M = 4.59, SD = 1.21) than their youth selves (M = 3.03, SD = 0.96), $t(57) = -5.46$, $p < .001$.

Finally, participants did not differ as to how difficult it was to role-play as their youth or adult selves (p = .21). However, there was a marginal effect of condition (p = .08) such that participants found it harder to form images of youth versus adulthood. Importantly, however, differences in cold pressor performance between "youth" and "adult" participants remained when controlling these variables ($p < .001$). Moreover, when entering the demographic variables as covariates in analysis of covariance (ANCOVA), all patterns in performance remained the same across conditions (ps < .05), whereas gender (p = .68), age (p = .79) and ethnicity (p = .14) failed to exert an effect.

These findings support the hypothesis. In line with prototypical associations between "experience and youth" and "agency and adulthood", participants who role-played as their past (youthful) selves were much less likely to endure a painful agentic task, whereas participants who role-played as their future (adult) selves were able to endure it for longer than all others. Connecting to adulthood thus boosted agency. By the same logic, the next study tested whether connecting to youth can boost experiential outcomes. It also employed a more subtle life stage manipulation to help complement this role-playing design, and tested a non-college sample. By doing so, it could establish that the effect is not limited to college students who think about their recent youth and adult life stages, but extends to anyone who brings to mind youth and adulthood.

EXPERIMENT 2

Thinking about youth enhances enjoyment

In Experiment 2, participants were manipulated to feel connected to youth or adulthood, and then were asked to watch a series of fun YouTube videos. It was predicted that being induced to feel connected to one's youth would enhance enjoyment for them.

Method

Participants

One hundred and nine people (M_{age} = 35.39; 39.4% women; 79.8% Caucasian) were recruited via Amazon's Mechanical Turk in exchange for $0.50.

Procedure

Participants were told that they would complete a research survey on the relationship between reading comprehension and entertainment preferences. First, they read an excerpt of "formal academic writing" and answered questions about comprehension. The content of the writing was manipulated to induce connectedness to youth or adulthood (adapted from Bartels & Urminsky, 2011). Participants were randomly assigned to *youth*, *adult* or *control* conditions.

Youth participants were first asked to report to which age bracket they belonged (18–24; 25–34; 35–44; 45–54; 55–64; 65 or older), ostensibly to help the computer select an "interesting and age-relevant" writing excerpt from a database. In reality, the measure was included to bolster the manipulation: Participants saw an excerpt about "recent psychological research" on stability in identity suggesting that, based on a large and representative study of Amazon Turkers, people in their age bracket strikingly resemble their "youth"-stage counterparts (e.g., "You now possess the characteristics, traits and dispositions that you imagine exhibiting as your 'youth self', even if you don't realize it"). Conversely, adult participants read about stability with adulthood (e.g., "You now possess the characteristics, traits and dispositions that you imagine exhibiting as your 'adult self', even if you don't realize it"). As in Experiment 1, explicit descriptors were avoided to prevent demand. Control participants read a short essay, matched for length with the others, which contained facts about the university that hosted the experiment (e.g., "The infrastructure includes more than 500 major buildings, with a combined area of over 31 million square feet").

In line with the cover story, participants then answered filler questions by estimating the number of words in the passage and how much time they spent reading. They were also asked to provide a short 1–3 sentence summary, which doubled as a means to detect those who did not actually read it. Then, they moved to the second part of the survey (see next paragraph). At the end of the entire study (described here for clarity), participants rated how believable and difficult to understand their excerpt was (1 = *not at all*, to 7 = *very*). They were also given a manipulation check that assessed their felt connection to the given life stage (from Bartels & Urminsky, 2011: see Figure 1). Control participants reported both youth and adulthood connection for comparison.

In the second part of the survey, participants were shown 10 viral YouTube videos and rated how much they enjoyed each, ostensibly to assess their entertainment preferences. The videos were

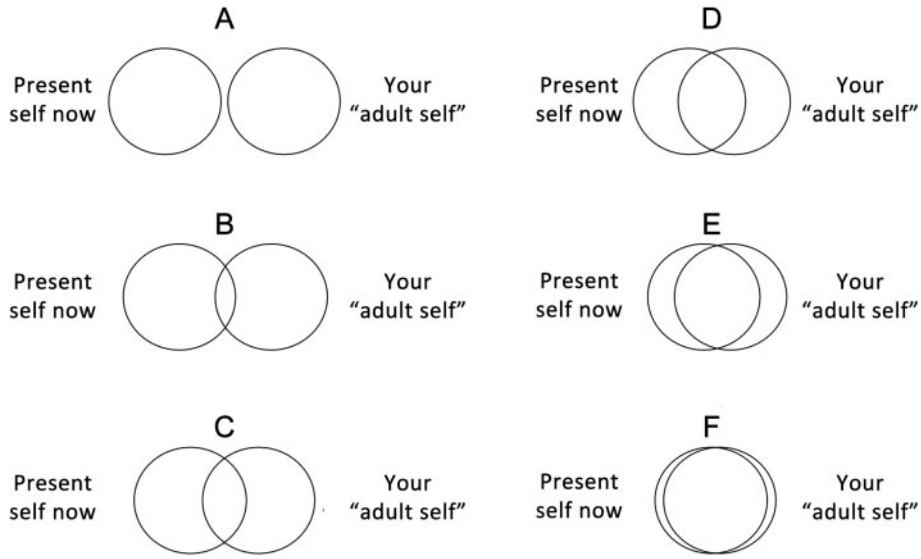

Figure 1. *The manipulation check from Experiment 2. Participants were instructed to select one of the diagrams from the six given below that best reflected their sense of "connectedness and similarity" to either their youth self or adult self, where no overlap means "completely different" and full overlap means "exactly the same". Control participants responded to both for comparison. In the study, the six diagrams were presented to participants vertically. Pictured below are the labels for the "adult" measure as a representative example. Letter choices were converted to numbers, with higher numbers indicating stronger connectedness (A = 1, B = 2, C = 3, D = 4, E = 5, F = 6).*

compiled from various publically available lists of short, fun and lighthearted YouTube clips (e.g., Time Magazine's "50 Best YouTube Videos", see Time, 2010). They were selected for their relatively mindless but highly experiential content. They included five clips of animals and five clips of people (see Table 1 for complete details). The clips were presented within a single 3-minute file, which could be played as many times as desired. Afterwards, participants responded to five enjoyment questions: how *enjoyable* and *fun* the compilation was, and how much *pleasure*, *happiness* and *joy* it gave them (1 = *not much*, to 7 = *very much*). Participants also reported whether or not they had seen any of the clips before (*yes*, *no* or *maybe*) and how many times they watched the video file during the study session (*once* or *more than once*).

Finally, all participants provided demographic information and were debriefed. Four participants were eliminated for writing wildly inaccurate summaries of their comprehension passages, and another four participants were eliminated because they reported significant technical issues while trying to load and watch the video file in full (N = 101).

Results and discussion

First, the manipulation worked. Youth participants felt significantly closer to their youth selves (M = 4.35) than control participants (M = 3.53), p = .017, whereas adult participants felt significantly closer to their adulthood (M = 4.66) than control participants (M = 3.94), p = .031.

The five enjoyment variables were strongly correlated (α = .98) and thus were collapsed into an enjoyment index. Data were submitted to one-way ANOVA analyses with condition (youth, adulthood or control) as the independent variable and this index as the dependent variable.

As predicted, there was a significant effect of condition, $F(2, 98)$ = 3.37, p = .038, η^2 = .06. Planned contrasts revealed that youth participants reported significantly more enjoyment (M = 5.56,

Table 1. *Information about the stimuli that were used in Experiment 2. All participants watched all video clips, which were compiled into a single 3-minute file (available from the author)*

Video title	*Description*	*Approx. views (as of May 2014)*	*Approx. length*	*YouTube link*
"Sneezing Panda"	A baby panda's sneeze surprises its mother	197,000,000	14 sec	http://www.youtube.com/watch?v=FzRH3iTQPrk
"Dramatic Chipmunk"	A chipmunk turns around while music plays	41,000,000	5 sec	https://www.youtube.com/watch?v=a1Y73sPHKxw
"Surprised Kitty"	A kitten mimics a person's hand and facial movements	74,000,000	17 sec	https://www.youtube.com/watch?v=0Bmhjf0rKe8
"Squirrel Eating a Lemon"	A squirrel quickly eats lemon wedge	33,000	30 sec	https://www.youtube.com/watch?v=PelZb9baDcY
"Bizkit the Sleep Walking Dog"	A sleeping dog makes running motions, wakes up, runs into wall	32,000,000	23 sec	https://www.youtube.com/watch?v=z2BgjH_CtIA
"Guy Runs Into Wall"	A young man runs, jumps and slams entire body into wall	4,000,000	6 sec	https://www.youtube.com/watch?v=ofV_iFBw2YE
"Ninja Baby"	A baby moves its hands and mouth in circular motion	41,000,000	36 sec	https://www.youtube.com/watch?v=a–3q4fOL5g
"Zombie Kid Likes Turtles"	A child is asked question by a reporter and gives unrelated answer	44,000,000	17 sec	https://www.youtube.com/watch?v=CMNry4PE93Y
"Pop Moonwalks Walmart"	A man dances across store with shopping cart	3,000,000	8 sec	https://www.youtube.com/watch?v=gE1ZvCnwkYk
"Mascot Eats Cheerleader"	A dinosaur sports mascot pretends to swallow one of the cheerleaders	3,000,000	25 sec	https://www.youtube.com/watch?v=J_jOd9ohHGE

SD = 1.74) than control participants (*M* = 4.76, *SD* = 1.61), $t(98) = 2.08$, $p = .04$, and also much more than adult participants (*M* = 4.65, *SD* = 1.42), $t(98) = 2.34$, $p = .021$.

Regarding the covariate questions, participants found the control passage to be the most believable ($M_{youth} = 4.89$, $M_{adult} = 4.31$; $M_{control} = 5.31$; $F(2, 98) = 4.18$, $p = .018$) and the adult passage to be the most difficult to understand ($M_{youth} = 2.32$, $M_{adult} = 3.38$; $M_{control} = 2.31$; $F(2, 98) = 4.73$, $p = .011$). Importantly, however, all effects remained when entering these items as covariates in ANCOVA, and when covarying prior exposure to the clips and how many times they were played (ps < .05). Moreover, as in Study 1, neither gender ($p = .61$), age ($p = .68$), nor ethnicity ($p = .15$) exerted significant effects when entered as covariates, and the effect of condition remained significant controlling these demographic variables ($p = .041$).

These results further suggest that feeling connected to one's youth or adult self can influence current feelings and behaviours in line with their perceived emotional and cognitive capacities. Participants induced to feel connected to their youthful selves reported increased video enjoyment. Connecting to youth thus enhanced experience, in line with the hypothesis.

GENERAL DISCUSSION

Youth and adulthood are inescapable stages of life, but these studies demonstrate that their influence is not limited to a fixed chronological period. Rather, merely bringing these concepts to mind can have distinct effects. Inducing participants to connect to their younger or older selves changed their real-time feelings and behaviours in ways that seem to reflect the perceived capacities associated with youth (i.e., stronger emotion and weaker cognition) versus adulthood (i.e., stronger cognition and weaker emotion).

At a conceptual level, these findings help extend previous research on the power of temporal forces that shape how people think, feel and behave in the present. Going beyond the role of objective age (Carstensen & Mikels, 2005) and general orientations towards past or future events (Miles et al., 2010), these studies show that thinking about life stages themselves is associated with unique characteristics and consequences. Indeed, the well-established finding that young adults tend to perceive their pasts as uniformly more negative and their futures as uniformly more positive than their presents (e.g., "temporal self-appraisal theory"; Wilson & Ross, 2001) would have wrongly predicted Experiment 2. The results revealed that such perceptions of the future are specifically more *agentic*, an observation that qualifies prior generalisations and helps to generate more nuanced hypotheses regarding time-related thought.

On this note, follow-up work on individual differences might explore whether people of any age or life background show similar patterns, to the extent that they naturally *feel* youthful or like an adult (Montepare & Lachman, 1989). Intriguingly, Experiment 2 provides initial evidence that objective age may not limit the effect to those who are actually close to being in prototypical periods of youth and adulthood (e.g., the college student participants in Experiment 1). Indeed, only about 20% of the sample was between 18 and 24 years (19 of 101), and over 70% was between 25 and 44 years (76 of 101)— yet the effect was still observed by inducing these participants to feel connected to periods of youth versus adulthood (and moreover, the effect remained when holding age and the other demographic variables constant). Hence, given that people of all ages mentally travel through time, these findings suggest that bringing to mind the *concepts* of youth and adulthood may have the same impact regardless of one's actual distance to those life stages. It is important to note here, however, that because the effect seems specific to youth and adulthood, it should be attenuated when people think about other turning points in life. The "action" is not in thinking about a set number of years into the past or future, but specifically when those years map onto the associated life stages. An older adult who imagines 10 years into her future, for example, might refer to thoughts of retirement and age-related impairment rather than agency and prototypical

adulthood. Youth and adulthood have power, then, to the extent they serve as the actual reference point at which people imagine their younger or older selves. This point was purposely manipulated in the current studies, but it does not capture the full range of life stages and events that people are able to access when they mentally travel through time.

It is also interesting to consider different experiential or agentic domains that may predict opposite patterns: People who feel connected to their rational future selves, for example, may exhibit stronger emotional reactions to more "mature" or "adult" events, such as viewing fine artwork. Similarly, other indices of agency beyond self-control could reflect more uniformly negative associations with adulthood and ageing (e.g., memory). As noted earlier, the current paper examined only one specific instantiation of both agency and experience, and there remain many avenues for future work to explore whether the effect holds across other aspects of the two constructs (e.g., if feeling connected to youth also enhances negative emotions, and if feeling connected to adulthood affects "System 2" processing more broadly). Finally, future research should also consider the role of culture, to the extent that life stages might take on different meanings under different cultural norms and conditions (e.g., within Eastern contexts, where "adulthood" is linked with wisdom and more uniformly positive associations: Martin, 1988).

Nonetheless, at a broader level, the current studies suggest important strategies for goal pursuit in everyday life. Failing to achieve one's goals is both common and costly, both for experiential tasks (e.g., trying to savour a meal) as well as agentic tasks (e.g., trying to stick to a diet). A large literature has documented the many unsuccessful attempts to fix such failures (see Baumeister, Heatherton, & Tice, 1994; Fishbach & Ferguson, 2007). The current findings may provide a novel and surprisingly simple solution.

On the one hand, experiential goals (e.g., to enjoy a vacation, meal, date or leisurely activity) might be facilitated by encouraging a sense of connection to one's youth (e.g., "What would my past self do?"). Given that actively trying to enjoy oneself often backfires (Schooler, Ariely, & Loewenstein, 2003), subtle changes in life-stage orientation could afford a more effective fix. On the other hand, agentic goals (e.g., to fight pain, act morally, stick with a plan and resist temptation) might be facilitated by encouraging a sense of connection to one's adulthood (e.g., "What would my future self do?"). Changing one's focus on life stage might present a welcome strategy for generating more effective study habits, emotion regulation and other important agency-based outcomes. Indeed, understanding the novel role of life-stage orientation and its asymmetric costs and benefits can provide an overarching framework to predict when and how people will be influenced by emotionally driven versus cognitively driven situations—a potentially fruitful tool for researchers, marketers and laypeople alike. To the extent that people successfully connect to different life stages, there may be distinct pros and cons for doing so.

Taken together, such implications reveal the need for a better understanding of life stages beyond the traditional developmental literature, which tends to focus only on differences between individuals who are actually in them (Damon & Eisenberg, 1998). As Bacon laments in the opening quote, there is indeed an extreme nature to youth's passion and adulthood's prudence within many who are younger and older themselves—but these tendencies may prove more useful (and differentially so) when called upon from the outside.

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