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How Will Things Be the Next Time?

Self in the Construction of Future Events among School-aged Children

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Abstract

This study examined among school-aged children the role of the self in perceived valence changes from the past to the future. Nine- to 11-year-old children (N=57) recalled positive and negative personal events of various situations and imagined a future personal event involving the same situation following each recall. Children's self-knowledge was assessed in terms of self-concepts for past, present, and future selves, and self-evaluations for social and cognitive competences. Children who viewed their future selves more positively and those who evaluated their cognitive competence more positively anticipated greater upward (positive) changes and smaller downward (negative) changes in their future academic performance. Children who evaluated their social competence more positively anticipated greater upward changes in their future peer relations. Furthermore, children who anticipated greater upward changes and smaller downward changes in their personal futures exhibited greater well-being. These findings shed new light on the role of self in mental time travel.

Keywords: future event simulation; mental time travel; self; self-concept; self-evaluation; autobiographical memory; well-being

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Our views of ourselves can profoundly influence how we process, represent, and remember self-relevant event information (Conway & Pleydell-Pearce, 2000; Markus & Wurf, 1987; Wang, 2013). The mental construction of past and future personal events can, in turn, contribute to the development, expression, and maintenance of a dynamic self (Bruner, 1990; McAdams, 2006; Wang, 2001, 2013). Although evidence for the effect of self on autobiographical memory is abundant (e.g., Libby & Eibach, 2002; Wang, 2004; Woike, Gershkovich, Piorkowski, & Polo, 1999), only a handful of studies to date have examined the role of self in the construction of future events (D'Argembeau & Mathy, 2011; Shao, Yao, Ceci, & Wang, 2010), a process that is considered to be intimately linked to memory (Schacter, 2012). Developmental research on this topic is virtually absent. Against this backdrop, we conducted a study with school-aged children to investigate the role of self in future event simulation from past experiences.

Self in Mental Time Travel

To travel backward in time to remember and re-experience past events and to project the self forward in time to anticipate future happenings are two linked processes that involve overlapping cognitive faculties and neural substrates (Addis, Wong, & Schacter, 2007; D'Argembeau & Van der Linden, 2006). It has been proposed that individuals use personal memories as the raw materials to simulate possible future episodes, where elements of the past are extracted, recombined, and reassembled into imaginary future events (Schacter, 2012). The two forms of mental time travel both emerge during the preschool years (Atance, 2008) and

continue to develop across middle childhood (Coughlin, Lyons, & Ghetti, 2014; Wang, Capous, Koh, & Hou, 2014).

Memory is not the sole important element in future event simulation, however. Knowledge about oneself may also play a critical role in the construction of future personal events. Self-knowledge, in the form of either conceptual representations of one's attributes (i.e., self-concept) or evaluations of one's competence relative to others' (i.e., self-evaluation) (Harter, 1998), may determine what and how memory details are sampled and recombined, integrate those details within a conceptual framework, and further modulate the interpretation of the generated future event (D'Argembeau & Mathy, 2011; Shao et al., 2010). Given that self-knowledge tends to be readily available and easily accessible (Markus & Wurf, 1987), it likely guides the constructive process of future event simulation from past experiences and can have immediate effects on the content of anticipated future episodes.

From the Past to the Future: Continuity or Change?

One interesting question concerning future event simulation is whether people perceive continuity or change from the past to the future. Research has suggested that people tend to perceive their futures as brighter than their pasts: they anticipate predominantly positive events in their futures and yet remember evenhandedly “highs” and “lows” from their pasts. (Caruso, Gilbert, & Wilson, 2008; D'Argembeau & Van der Linden, 2006; Newby-Clark & Ross, 2003). A recent study by Wang and colleagues (Wang, Gould, & Hou, 2015) directly examined how people perceived *change* from the past to the future in future event simulation. College students were asked to recall positive and negative personal events of various situations (e.g., doing well on a school assignment). Following each recall, they were asked to imagine a future personal

event involving the same situation (e.g., having another school assignment). It was found that when imagining future personal events following recall of relevant past events, over half of the participants expected the future to change in either upward (positive) or downward (negative) directions, depending on the valence (i.e., positive or negative) of the past events. This finding suggests that the future is not always perceived as brighter than the past. Instead, people may anticipate positive or negative changes in their personal futures by taking into consideration of what has happened in the past. This sense of change and instability may reflect the influence of dialectical worldviews such as “one cannot step into the same river twice (Heraclitus, ca. 540-480 B.C.)” (Ji, 2008; Spencer-Rodgers, Williams, & Peng, 2010).

Pertaining to the direction of anticipated changes, on the other hand, the self may play a critical role. Research has suggested that individuals who view themselves more positively also tend to imagine more positive future events (Shao et al., 2010), whereas those with negative self-views, such as depressed patients, are more likely than normal controls to imagine negative events happening in the future (Pyszczynski, Greenberg, & Holt, 1987). The relation of the self to whether people view their futures as *changing* to be better or worse than their pasts has yet to be examined. Conceivably, a positive self-view may motivate individuals to expect upward changes from the past to the future, whereas a negative self-view may project doubt on the personal future and further lead to the anticipation of downward changes. In turn, the anticipated upward and downward changes may have implications for psychological well-being, whereby a negative outlook towards the future diminishes well-being, whereas a positive outlook facilitates well-being (Taylor & Brown, 1988).

The Present Study

The present study aimed to examine the role of the self in future event simulation among 9- to 11-year-old children, an age group that has developed complex self-knowledge (Harter, 1998) and marked abilities of mental time travel (Coughlin et al., 2014; Wang et al., 2014). We adopted the paradigm developed by Wang et al. (2015): children first recalled a positive or negative personal event involving either peers or academic performance. They were then asked to imagine a future personal event involving the same situation. The shift of affective valence in the future event was then observed. We expected that consistent with adult data (Wang et al., 2015), a considerable percentage of children would anticipate changes from the past to the future in either upward or downward directions, depending on the valence of their past experiences.

We assessed children's self-knowledge in terms of self-concept and self-evaluation to take into account the multifaceted nature of the self (Harter, 1998; Koh & Wang, 2012; Wang & Li, 2003). For self-concept, we incorporated a temporal dimension by asking children to describe their past, present, and future selves. We expected the influence of self-concept on future event construction to be time-sensitive, whereby the conceptual representation of what the self may become in the future, or the *possible self* (Markus & Nurius, 1986), may play a critical role in the imagination of future happenings. Following previous findings that the valence of future self-concepts are particularly predictive for the valence of imagined future events (Shao et al., 2010), we expected that children who viewed their future selves more positively would anticipate greater upward changes and smaller downward changes from the past to the future, independent of their past and present self-concepts. In comparison, past and present self-concepts would exhibit smaller or no direct effects on future event construction. For self-evaluation, we assessed children's self-perceived competence in social and academic domains, respectively, in line with the theoretical notion that self-evaluation is domain-specific rather than a unitary construct

(Harter, 1982). We expected that children who evaluated their social competence more positively would anticipate greater upward changes and smaller downward changes in peer-related future events, and that children who evaluated their cognitive competence more positively would anticipate greater upward changes and smaller downward changes in their future academic performance. We included boys and girls from Chinese and European American cultural backgrounds to test the generalizability of our hypotheses. We expected the effect of the self on future event simulation to be consistent regardless of gender or ethnicity.

Finally, we assessed children's general self-worth (Harter, 1982) as an index for psychological well-being in relation to anticipated future changes. Consistent with adult findings (Wang et al., 2015), we expected that children who anticipated greater upward changes and smaller downward changes would exhibit greater self-worth.

Method

Participants

The sample included 57 children from a university town and suburban areas in upstate New York. They were aged 9.90 to 11.36 years ($M = 10.54$ years, $SD = .42$), all from middle-class families with the majority of mothers and fathers having a college degree or beyond. Twenty-eight children (12 girls, 16 boys) were European and 29 were Chinese in origin (14 girls, 15 boys), according to parental report. Children were recruited through local schools and by word of mouth, and were taking part in a longitudinal study of social-cognitive development in middle childhood. Parents gave permission for their children to participate and children gave informed assent.

Procedure

Female researchers interviewed the children at home. English-Chinese bilingual researchers interviewed Chinese American children in the language of the children's choice, and all the children chose to speak English. Parents were not present at the time of the child interviews. Each home visit took approximately two hours and was video tape-recorded. Only the tasks relevant to the present study are described below.¹

Measures

Past and future events. This task was adapted from previous studies of past and future event constructions in children (Wang et al., 2014) and of perceived past-to-future changes in adults (Wang et al., 2015). The interviewer first interacted with children to establish rapport. She then invited children to play a "past and future game." She explained that the game was to talk about specific events from the past and future and that specific events meant things happening at a particular time and place. She provided examples to show what would (e.g., "I went to the Science Museum last Saturday") or would not (e.g., "I went to the Science Museum all the time") be considered to be a specific event. She then asked children to recall two positive and two negative recent personal events, presented in a random order, in two important domains of the children's lives. Pertaining to the domain of peer relations, children were asked to recall a recent time "when you and someone had great fun together" and "when you and someone got into an argument." Pertaining to the domain of academic performance, children were asked to recall a recent time "when you did well on an assignment at school" and "when you had a difficult test at school and got a bad grade." After each recall, children were asked to imagine a future episode involving the same situation as in the past event (e.g., hanging out with the same peer, receiving another assignment at school). Following each event question, the interviewer used standard

prompts such as “Can you tell me more?” and “What else happened (is going to happen)?” until children indicated that they were done. This task took approximately 20 minutes.

Following previous studies (Marian & Kaushanskaya, 2008; Wang et al., 2015), we coded the overall valence of each anticipated future event as positive, negative, or neutral. This was determined by the general affective tone of the event (e.g., playing an awesome game; failing an exam), in reference to the use of positive and negative words in the event description. Two coders, both unaware of the study’s hypotheses, independently coded 20% of the data for reliability estimate. Cronbach’s alphas ranged from .83 to 1.00 for the four future events. One coder then coded the rest of the data. The valence of past events was either positive or negative, as predetermined by the task.

Concepts of past, present, and future selves. Children were asked to complete sentences starting with “I ___” in as many ways as possible. The interviewer told children, “Now, (Child’s name), let’s see if we can think about what you were like in the past (what you are like now; what you will be like in the future). How about that you finish a sentence like this, “In the past (now; in the future), (Child’s name) ____.” After each response, the interviewer prompted children to finish the sentence in other ways until children indicated that they were done. A maximum of ten prompts were provided. The order of describing past, present, and future selves was counterbalanced.

Each unique self-description was coded as positive, negative, or neutral, depending on whether it implied a clearly positive or negative self-view (Shao et al., 2010; Wang, 2004). For example, “I was pretty” and “I will get A” were coded as positive, whereas “I dislike math” and “I will not have friends” were coded as negative. Each child received three separate scores (i.e., positive, negative, and neutral) for each temporal point. Descriptions about other people,

repetitions, and descriptions inappropriate to the requested temporal point were rare and not considered. The inter-coder reliability r between the two coders based on 20% of the data ranged from .93 to .99.

Self-evaluations. Two scales adapted from the Perceived Competence Scale for Children (PCSC, Harter, 1982) were used to measure children's evaluations of their social and cognitive competence. PCSC is a self-report instrument designed for elementary school children and has shown satisfactory validity and reliability. The social and cognitive scales each consists of 7 items, with a Cronbach's $\alpha = .78$ and $.65$, respectively, for the current sample. The interviewer read to children each statement (e.g., "Most kids like me" and "I'm vey good at my schoolwork") and asked them to indicate whether it was true for them on a 4-point scale (from 1 = *really not true* to 4 = *really true*) presented both verbally and pictorially. Children each received two scores (i.e., social and cognitive), with higher scores indicating more positive self-evaluations in respective domains.

Well-being. Children's general self-worth was assessed with a scale adapted from PCSC (Harter, 1982) that consists of 7 items (e.g., "I'm happy with the way I am"). This scale has been used in prior studies to index children's global self-esteem and well-being (Reese, Bird, & Tripp, 2007). The interviewer read to children each statement and asked them to indicate on a 4-point scale whether it was true for them (from 1 = *really not true* to 4 = *really true*). One item ("I want to stay the same") was negatively correlated with other items. The final self-worth score excluded this item, with a Cronbach's $\alpha = .51$.

Language skills. Because the tasks involved verbal production, we included a language measure to control for individual differences. Children's mothers filled out a Child Communication Survey adapted from Feagans and Farrans (1997). The survey consists of 18

items that assess school-aged children's language and communication skills (e.g., "Child is easily understood when he/she is talking to you"). Mothers rated each statement on a scale of 1 (well below average) to 5 (well above average), and the sum of ratings was used to index the children's language skills (maximum score 90). This survey had a Cronbach's $\alpha = .96$ for the current sample.

Results

The valence of children's memories was first examined for a manipulation check. Five children failed to follow the instruction: they recalled clearly positive memories in response to the request for a negative memory, or recalled clearly negative memories in response to the request for a positive memory. In addition, 7 children did not recall specific events in response to one of the memory questions, and 2 children did not produce future events following a memory recall. These children were excluded from relevant analyses. A few children provided memories without explicit descriptors to indicate valence (e.g., "We played soccer together"), but the memory content was consistent with the requested past event (e.g., a positive peer memory). Excluding the children did not change the pattern of results. The final analyses therefore included these children. There was no significance difference in language skills between boys ($M = 66.48, SD = 12.74$) and girls ($M = 71.88, SD = 12.02$), or between Chinese Americans ($M = 71.14, SD = 13.76$) and European Americans ($M = 66.68, SD = 11.07$).

In the following sections, we examined the anticipated downward and upward changes from the past to the future in relation to children's self-concepts and self-evaluations, followed by results pertaining to the relation of anticipated future changes to well-being.

Anticipating Future Changes

After recalling a positive memory, any change in valence of the ensuing future event (negative or neutral) was considered downward, whereas after recalling a negative memory, any change in valence of the ensuing future event (positive or neutral) was considered upward. Across the entire sample, 50% of the children anticipated downward changes following the recall of a positive peer event, and 67% anticipated upward changes following the recall of a negative peer event. For the academic domain, 33% of the children anticipated downward changes following the recall of a past success, whereas 56% anticipated upward changes following the recall of a past failure. Thus, across the 4 past-future event pairings, a considerable percentage of children anticipated changes of valence from the past to the future.

We further quantified the magnitude of anticipated changes. Following a positive past event, a positive, neutral, or negative future event was scored 0, 1, or 2, respectively, and following a negative past event, a positive, neutral, or negative future event was scored 2, 1, or 0, respectively. Figure 1 illustrates the mean magnitude of anticipated downward and upward changes. Repeated-measures analyses showed that children anticipated greater upward than downward changes for both peer relations, $F(1, 47) = 3.55, p = .07, \eta_p^2 = .07$, and school performance, $F(1, 51) = 6.08, p = .02, \eta_p^2 = .11$. There were no differences in the magnitude of downward or upward changes between the two domains.

We further conducted a 2 (gender) x 2 (ethnicity) ANCOVA on the anticipated change in each past-future event pairing, with children's age and language skills included as covariates. There was an age effect on the magnitude of upward change in the peer domain, $F(1, 45) = 5.69, p = .02, \eta_p^2 = .11$, whereby older children anticipated smaller upward changes than younger children after recalling a negative peer event. A gender effect emerged from the analysis of the upward change in the academic domain, $F(1, 48) = 7.99, p = .007, \eta_p^2 = .14$, whereby boys ($M =$

1.30, $SD = .88$) anticipated greater upward changes than did girls ($M = .58$, $SD = .88$) after recalling a past academic setback. There was also a marginal language effect, $F(1, 48) = 3.21$, $p = .08$, $\eta_p^2 = .06$, whereby children with greater language skills anticipated smaller upward changes in the academic domain.

Self in the Anticipation of Future Changes

Self-concept. We first examined the role of self-concept in children's anticipation of future changes. For each temporal point (i.e., past, present, and future), we calculated a valence score for children's self-descriptions, taking the ratio of the difference between positive and negative self-descriptions to the total number of self-descriptions and multiplying it by 10 (Shao et al., 2010). A positive (negative) value would indicate that children were generally positive (negative) about themselves for that time point. Means of the valence scores are presented in Table 1. Two (gender) x 2 (ethnicity) ANCOVAs on the valence scores with age and language skills as covariates showed only an age effect on present self-concepts, $F(1, 51) = 4.60$, $p = .04$, $\eta_p^2 = .08$, whereby older children were more positive about their current selves than younger children. There was no significant correlation between the valence scores of past, present, and future self-concepts, r 's = .04 - .19, p 's = .15 - .78.

Multiple regression analyses were conducted with the anticipated change in each past-future event pairing as the dependent variable and the valence scores of past, present, and future self-concepts as simultaneous predictors within each model. Gender, ethnicity, age, and language skills were included in the models as covariates. The valence of future self-concepts uniquely predicted anticipated upward changes in the academic domain, $t(46) = 2.78$, $p = .008$, Standardized $\beta = .35$, whereby children who viewed their future selves more positively

anticipated greater upward changes. Additional analyses showed no significant interaction between gender or ethnicity and the valence of future self-concepts, indicating that the effect was not moderated by gender or ethnicity.

Self-evaluation. Next we examined children's self-evaluations of their social and cognitive competence in relation to their anticipation of future changes in peer and academic domains, respectively. Means of self-evaluation scores are presented in Table 1. Two (gender) x 2 (ethnicity) ANCOVAs on self-evaluation scores with age and language skills as covariates showed that boys ($M = 23.16$, $SD = 2.78$) evaluated their social competence more positively than did girls ($M = 21.33$, $SD = 3.67$), $F(1, 51) = 4.31$, $p = .04$, $\eta_p^2 = .08$. For cognitive competence, a marginal ethnicity effect emerged, $F(1, 51) = 2.87$, $p = .10$, $\eta_p^2 = .05$, qualified by a Gender x Ethnicity interaction, $F(1, 51) = 4.89$, $p = .03$, $\eta_p^2 = .09$. Whereas girls of the two ethnic groups did not differ from each other, Chinese American boys evaluated their cognitive competence more positively than did European American boys, $F(1, 29) = 8.75$, $p = .006$, $\eta_p^2 = .23$. In addition, children with greater language skills evaluated more positively their cognitive competence, $F(1, 51) = 3.96$, $p = .05$, $\eta_p^2 = .07$.

Multiple regression analyses were first conducted on anticipated changes in the peer domain, with social self-evaluation scores as the predictor. Gender, ethnicity, age, and language skills were included in the models as covariates. Children who evaluated their social competence more positively anticipated greater upward changes at marginal significance, $t(45) = 1.77$, $p = .08$, Standardized $\beta = .25$. Similar regression analyses were conducted on anticipated changes in the academic domain, with cognitive self-evaluation scores and gender, ethnicity, age, and language skills included in the models. Children who evaluated their cognitive competence more

positively anticipated smaller downward changes, $t(49) = -2.34$, $p = .02$, Standardized $\beta = -.34$, and they also anticipated greater upward changes at marginal significance, $t(48) = 1.78$, $p = .08$, Standardized $\beta = .24$.² Additional analyses showed no significant interaction between gender or ethnicity and the predictor variables, indicating that the effects were not moderated by gender or ethnicity.

Relation to Well-being

A 2 (gender) x 2 (ethnicity) ANCOVA on the self-worth score with age and language skills as covariates showed no effects (Table 1). Regression analyses were conducted to test the relation of anticipated future changes to self-worth, independent of gender and ethnicity. In the first regression model, anticipated upward and downward changes in the peer domain were the predictors, the self-worth score was the dependent variable, and gender and ethnicity were included as covariates. Children who anticipated greater upward changes exhibited greater self-worth at marginal significance, $t(43) = 1.87$, $p = .07$, Standardized $\beta = .29$. In the second regression model, anticipated upward and downward changes in the academic domain were predictors, the self-worth score was the dependent variable, and gender and ethnicity were included as covariates. Children who anticipated smaller downward changes exhibited greater self-worth, $t(47) = -1.99$, $p = .05$, Standardized $\beta = -.29$. Additional analyses showed no significant interaction between gender or ethnicity and the predictor variables, indicating that the effects were not moderated by gender or ethnicity.

Discussion

The present study is the first to examine the role of the self in future event simulation among school-aged children. It focused on perceived valence changes from the personal past to the personal future, in relation to the dynamic self as a multifaceted construct that encompasses

different temporal epochs and specific domains (Harter, 1998; Koh & Wang, 2012; Wang & Li, 2003). Including different genders and ethnic groups further allowed the test of generalizability of the findings.

Consistent with our predictions, when asked to imagine future personal episodes following recall of relevant past events, a considerable percentage of children expected the future events to change in either upward or downward directions, depending on the affective nature of the past events. This is in line with previous findings with adults (Wang et al., 2015). It may reflect the influence of general worldviews that see change as a natural way of life and the world as in constant flux (Ji, 2008; Spencer-Rodgers et al., 2010). Interestingly, children in our study anticipated greater upward than downward future changes for both peer relations and school performance, whereas adults in Wang et al. (2015) did so only for peer relations but anticipated greater downward than upward changes in the academic domain. It appears that children are more optimistic than adults about their school performance, presumably reflecting the general developmental findings that children often overestimate their cognitive abilities (Harter, 1998). Alternatively, the gloomy future imagined by adults may reflect college students' anxiety over academic performance in the competitive environment of an Ivey League school (Wang et al., 2015). It would be interesting to further examine the interplay between individual goals and external contexts in affecting future event construction.

The nature of the self further accounted for individual differences in the anticipation of future changes. As we expected, children who viewed their future selves more positively anticipated greater upward changes in their future academic performance, independent of their past and present self-concepts. This is consistent with the findings of Shao et al. (2010) showing that adults who held more positive future self-concepts constructed more positive future events.

Furthermore, children who evaluated their social competence more positively anticipated greater upward changes in their future peer relations, and children who evaluated their cognitive competence more positively anticipated greater upward changes and smaller downward changes in their future academic performance. The observed relations of the self to anticipated future changes were independent of children's gender, ethnicity, age, and language skills. These findings suggest that the self does not manifest in a unitary fashion (Harter, 1998; Koh & Wang, 2012; Wang & Li, 2003). Instead, its substructures may become selectively activated (e.g., thinking about a future event activates one's future self-concept, or recalling a peer incident activates one's peer-related self-evaluation) and further influence the processing of highly relevant information in future event simulation.

It appears that although memory may provide the necessary ingredients to assemble plausible future events (Schacter, 2012), this is not a mechanical process during which details from memory are randomly pieced together. Instead, future event simulation may involve a dynamic, constructive process guided by the self and other general knowledge structures (D'Argembeau & Mathy, 2011; Shao et al., 2010; Szpunar, 2010; Wang et al., 2015). Important from the present perspective, the self as a dynamic construct with time-sensitive, domain-specific information may be critical in modulating individuals' perception of their personal futures. It may provide a conceptual framework for the selection, integration, and interpretation of memory details in the construction of future events (D'Argembeau & Mathy, 2011). This analysis is in line with cognitive theories that view the self as playing a central role in shaping how individuals process and represent self-relevant event information (Conway & Pleydell-Pearce, 2000; Markus & Wurf, 1987; Wang, 2013).

Importantly, anticipated future changes were, in turn, associated with psychological well-being as indexed by self-worth. Regardless of gender or ethnicity, children who anticipated greater upward changes in their future peer relations and those who anticipated smaller downward changes in their future academic performance exhibited greater self-worth. This is consistent with previous adult findings (Wang et al., 2015) as well as the theoretical notion that a positive outlook towards the future is critical for maintaining psychological well-being (Pyszczynski et al., 1987; Taylor & Brown, 1988). It further suggests a dynamic, bidirectional relationship between the self and the construction of personal future events (D'Armenteau & Mathy, 2011; Shao et al., 2010; Wang, 2013). The finding has important implications for education and parenting, where programs and practices may be developed to help children construe the personal future in a positive light in order to boost children's well-being and sense of worth.

Given the relatively small sample in the present study, the correlational nature of the data, as well as the lack of counterbalance of the tasks and thus potential order effects (see Footnote 1), further research, especially experimental and longitudinal research, is needed to corroborate the findings. Future studies should also examine family socialization, such as parent-child co-construction of future events, that interacts with the development of self-knowledge in affecting children's future event simulation. Nevertheless, the present study adds to the developmental and cognitive literature concerning the role of self in mental time travel. The findings shed new light on the constructive process of future thinking this is influenced not just by one's past but, perhaps more important, one's views of the self in the future and in relevant domains of experiences.

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Footnotes

¹ As part of a longitudinal study, the tasks followed the same sequence across all children, in the order of Perceived Competence Scale for Children (PCSC), past and future event construction, and self-descriptions. There was a 5-minute rest period following each task to reduce fatigue and potential order effects.

² Additional logistic regression analyses were conducted on the likelihood of anticipated changes, which yielded identical patterns of results as those on the magnitude of anticipated changes.

Table 1. *Means (and Standard Deviations) of Self-concept, Self-evaluation, and Self-worth Scores by Gender and Ethnicity*

		European		Chinese	
		Female	Male	Female	Male
Self-concepts					
	Past	1.01 (3.84)	2.33 (3.68)	0.49 (4.78)	−0.09 (3.51)
	Present	3.80 (2.19)	5.94 (2.67)	3.08 (4.48)	3.89 (4.77)
	Future	2.72 (2.45)	4.42 (3.33)	3.52 (3.71)	4.00 (2.08)
Self-evaluations					
	Peer	21.58 (4.42)	23.19 (3.08)	21.11 (3.05)	23.13 (2.53)
	Academic	22.92 (2.50)	20.31 (4.03)	22.64 (2.13)	23.67 (1.80)
Self-worth		20.17 (3.07)	19.19 (2.14)	19.21 (2.15)	20.27 (1.39)

Figure Caption

Figure 1. Mean magnitude of downward and upward changes between past and future events. Downward changes are depicted in negative values for illustration. Error bars represent standard errors of the means.