

Culture and Time Cognition

Tieyuan Guo

A Presentation at Department of Psychology,
College of Educational Science,
Hubei Normal University

Nov 14, 2022

Outlines

◆ Culture and ...

- Attention to the past
- Influences
 - ◆ Stock investment
 - ◆ Valuing the past and the future
 - ◆ Perceiving past and future change
 - ◆ Past self-continuity

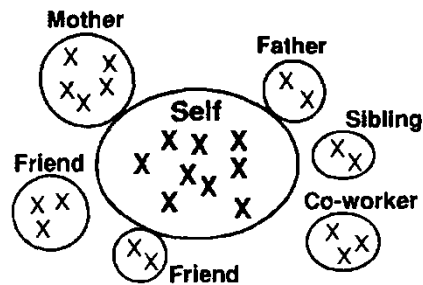
Attention in the Spatial Field.

- ◆ Chinese attend more to the context...
 - Holistic thinkers
 - Spatial: attend more to the field and the relationships between the objects and the field.

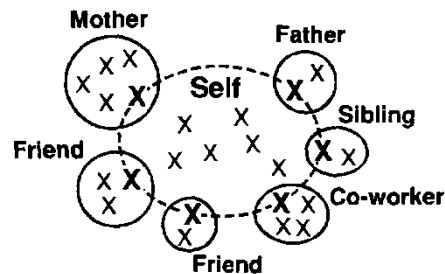


Attention in the Social World

- ◆ Chinese attend more to the context...
 - Social: attend more to others and the relationships (Markus & Kitayama, 1991).



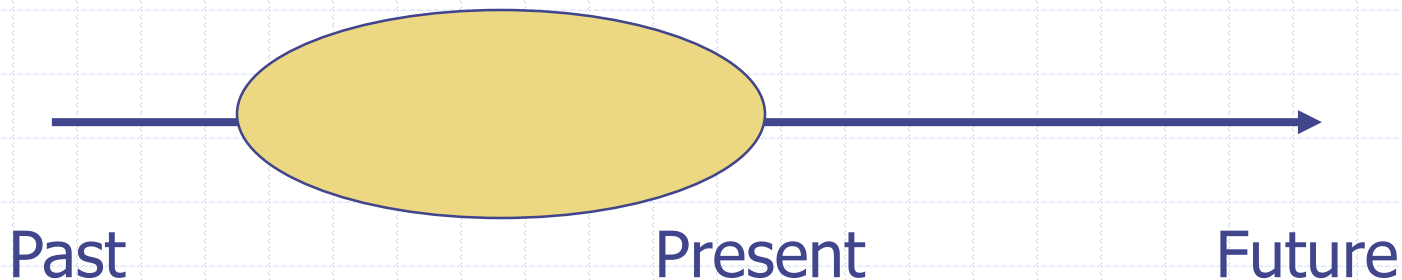
A. Independent View of Self



B. Interdependent View of Self

How about the time dimension?

- ◆ Do Chinese attend more to the past as well?
 - Past can be viewed as the context of the present



Chinese and Western thoughts about the past

◆ China

- History as a mirror 以史为鉴（唐-魏徵）

◆ Western countries

- Hegel（黑格尔）：The only thing that we learn from history is that we learn nothing from history.

Indirect evidence in the literature

◆ Chinese

- Respect traditions: ancestor worship, brand loyalty, etc. (Brislin & Kim, 2003; Kluckhohn & Strodtbeck, 1961)
- Time-honored products (Cheng & Schweitzer, 1996)

◆ Westerners:

- Represent distant past information more abstractly than recent past ones (Semin & Smith, 1999)
- Citing more information pertaining to recent past than distant past (Pollman, 1998)

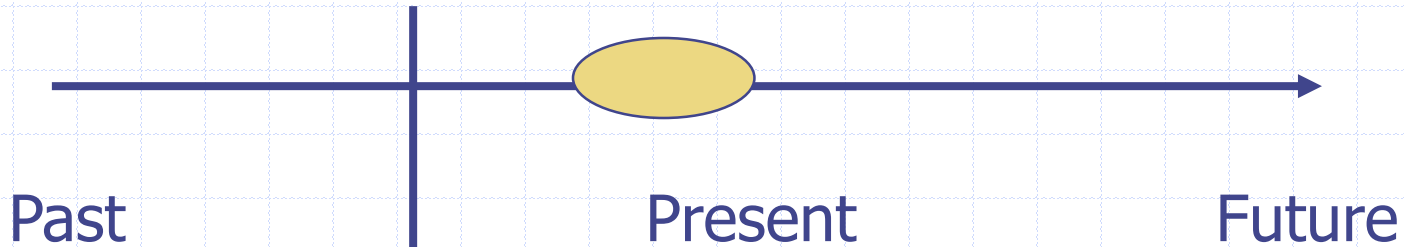
Chinese culture and the perception of the passage of time

- ◆ Chinese traditional writing makes people perceive the past is "*higher/up*", which can be seen in the languages:
 - Last week- up.week (上周); morning- up.half.day (上午); the beginning of the month- month.head (月头)
 - Next week- down.week (下周); afternoon- down.half.day (下午); the end of the month- month.bottom (月底)
- ◆ And higher is related to valuing/respect/position

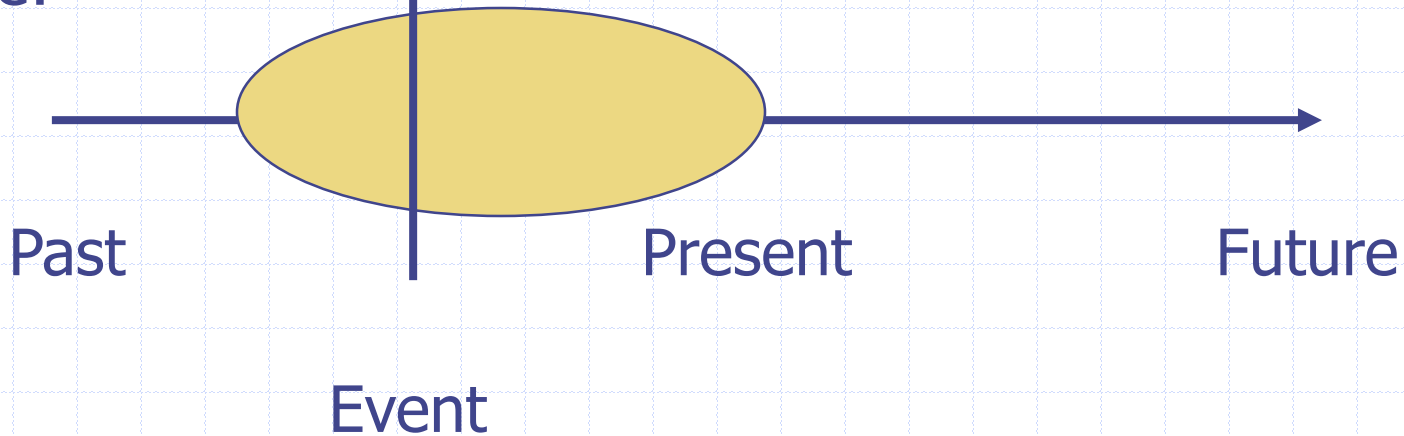


Subjective Temporal Distance of the Past

North Americans:



Chinese:

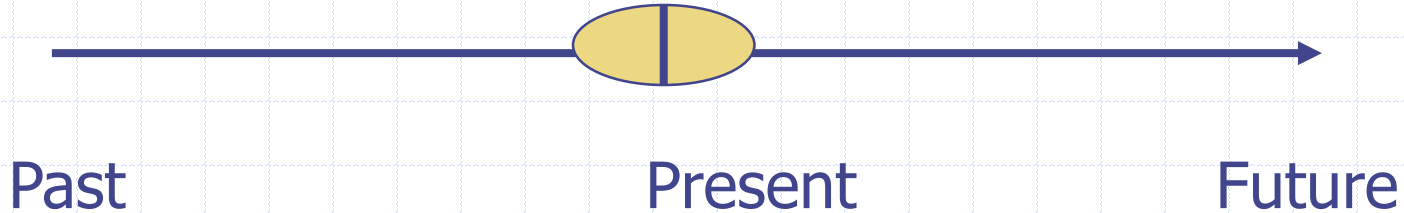


Studies 1a & 1b- Subjective Temporal Distance of the Past

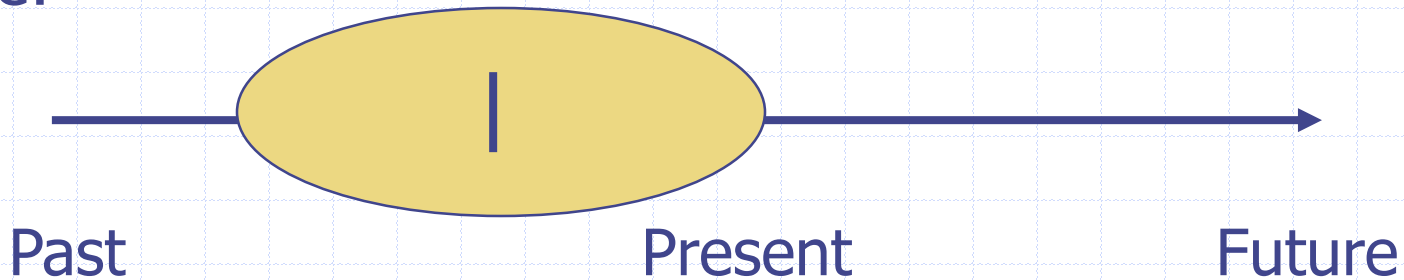
- ◆ Chinese and Canadian participants
- ◆ Think about a past exam (Study 1a) or the present month one year ago (Study 1b).
 - *"Past events may feel quite close or far away, regardless of when they actually occurred. How far away do you feel this final exam is"*
 - 1 (*feels like yesterday*), 7 (*feels very far away*)
- ◆ Results- Chinese perceived the past exam and time as being closer to the present than Canadians did.

Temporal Events Distribution

North Americans:



Chinese:



Events

Study 2 Temporal Events Distribution

◆ Event listing approach

- 11 cue words, list a past personal event for each cue words.
- Indicate exactly when these events happened

◆ Results

- Events listed by Chinese were further away than those listed by Canadians.



Do Chinese use past information more
than North Americans?

Studies 3 & 4- Detective Study

- ◆ *This morning, student A in an all-female residence left for class in a rush and forgot to lock the door of her room. When she returned this evening, she found that the \$200 cash that she had kept in her desk drawer was missing. Since non-residents are not allowed in the building, it is only possible that other residents in this all-female dormitory would be responsible for the disappearance of the money.*

Studies 3 & 4- Detective Study

- ◆ Clues regarding remote/recent past and present were presented. Ps judged how relevant these clues were.
 - Study 3- Each participant received all three type of cues, i.e., within-subject design
 - Study 4- Each participant received only one type of cues, i.e., between-subject design

Set 1:

- A. (When she was 13,) one student was ranked No. 1 in her class.
- B. (Last year,) one student won a prize at a provincial math competition.
- C. (Currently,) one student is among the top of her class.

Set 2:

- A. (Three years ago,) one student spent all her money on lottery tickets.
- B. (Two weeks ago), one student lost a bet of \$100 to her roommate.
- C: (This afternoon), one student was out playing poker for money.

Set 3:

- A. (Last term,) one student had a quarrel with student A.
- B. (Last week,) one student got mad at student A.
- C. (Currently,) one student is on bad terms with student A.

Study 3- Within-Subjects Design

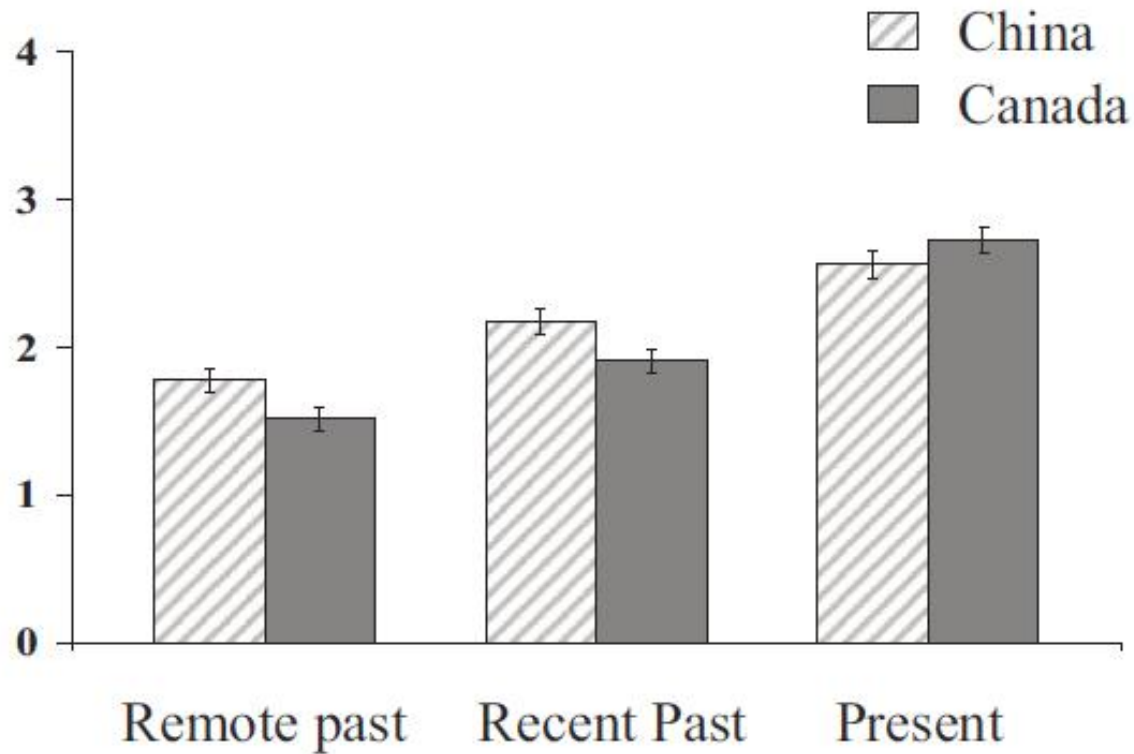


Figure 1. Mean ratings of relevance given by Chinese and Canadian participants (\pm SE) in Study 1.

Study 4- Between-Subjects Design

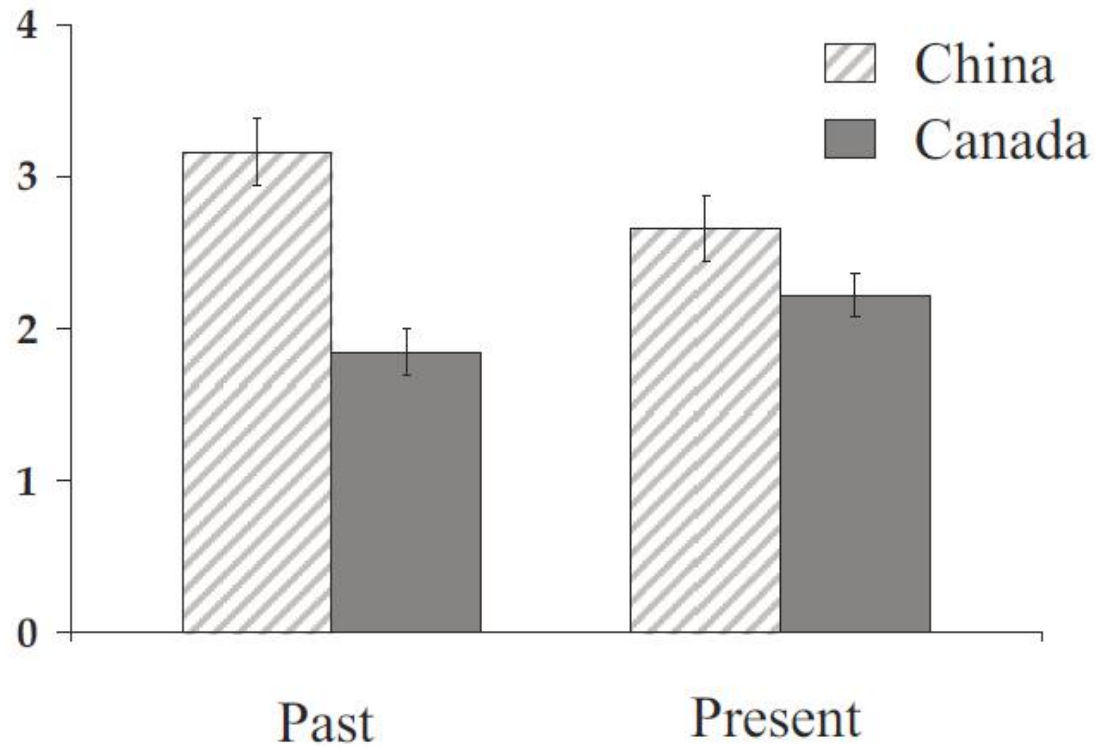


Figure 2. Mean ratings of relevance given by Chinese and Canadians (\pm SE) in Study 2.

Study 5- Mental Representations

◆ Canadian and Chinese participants

- Recall and list things happened on the first day of school for the current semester within two days of the first days of class (Time 1) and 2 weeks later (Time 2)

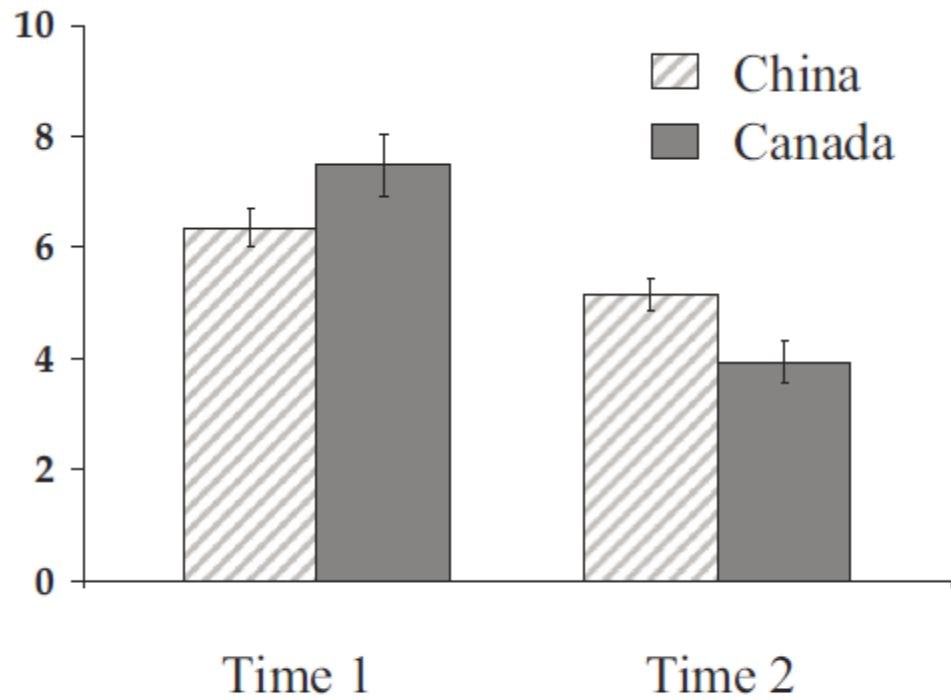


Figure 3. Frequency of information items recalled by Chinese and Canadians at Time 1 (within 2 days) and Time 2 (2 weeks later) (\pm SE) in Study 3.

Outlines

◆ Culture and ...

- Attention to the past
- Influences
 - ◆ Stock investment
 - ◆ Valuing the past and the future
 - ◆ Perceiving past and future change
 - ◆ Past self-continuity

Stock market

- ◆ Many investors make buy or sell decisions based on price trend in the past.
- ◆ Lay theory of change makes Chinese more likely to predict the price trend would change than Westerners.

Lay theory of change and stock market decisions

402 *Journal of Behavioral Decision Making*

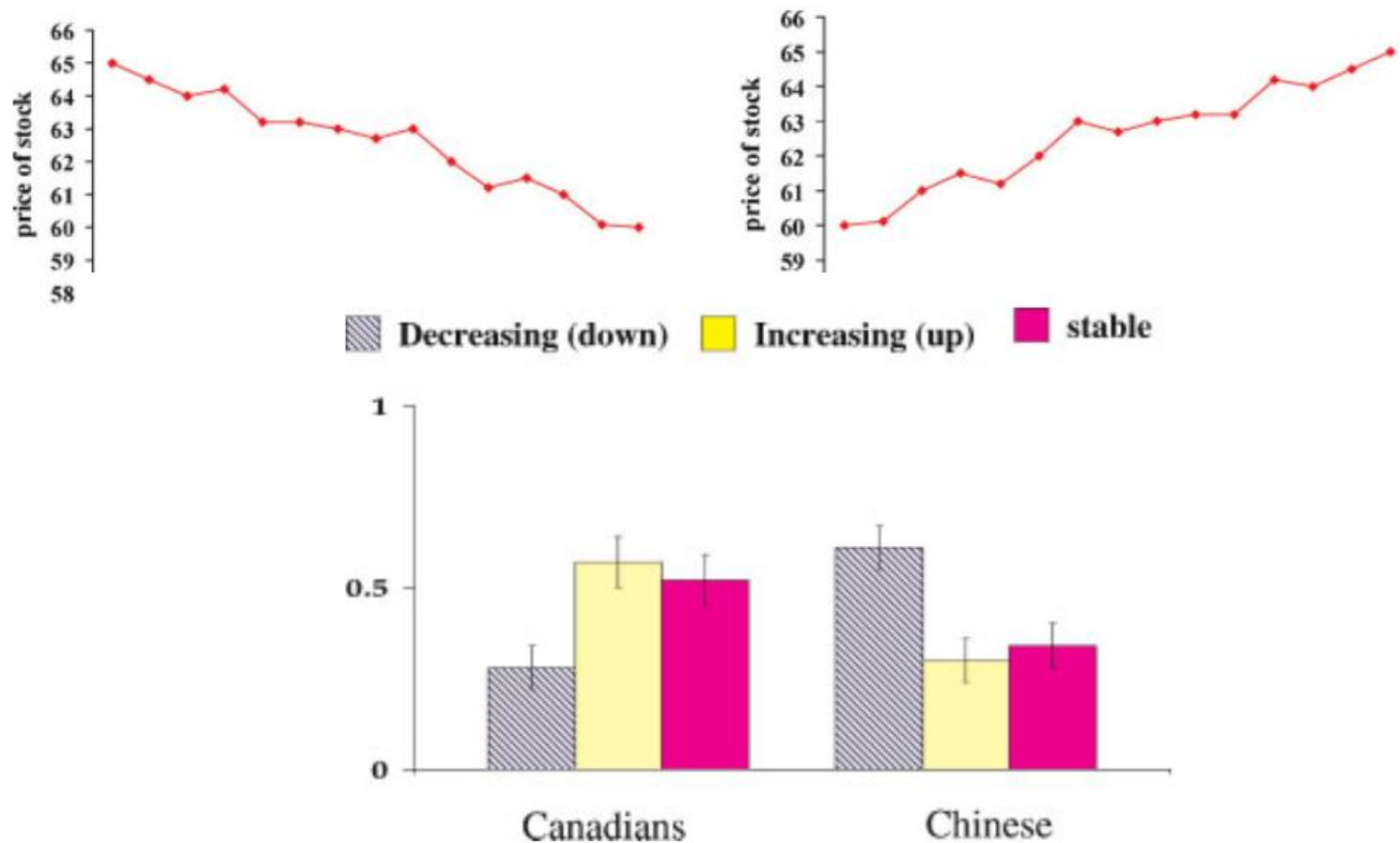



Figure 2. Are you going to buy this company's stock? (1 = yes, 0 = no) (Study 1)



◆ Given their broad past focus, Chinese may consider a longer range of stock prices



Decreasing with
An early reversal
(DER)



Increasing with
An early reversal
(IER)



Decreasing with
A late reversal
(DLR)



Increasing with
A late reversal
(ILR)

Figure 4. Trends used in Study 3

Likelihood to
sell at Day 16

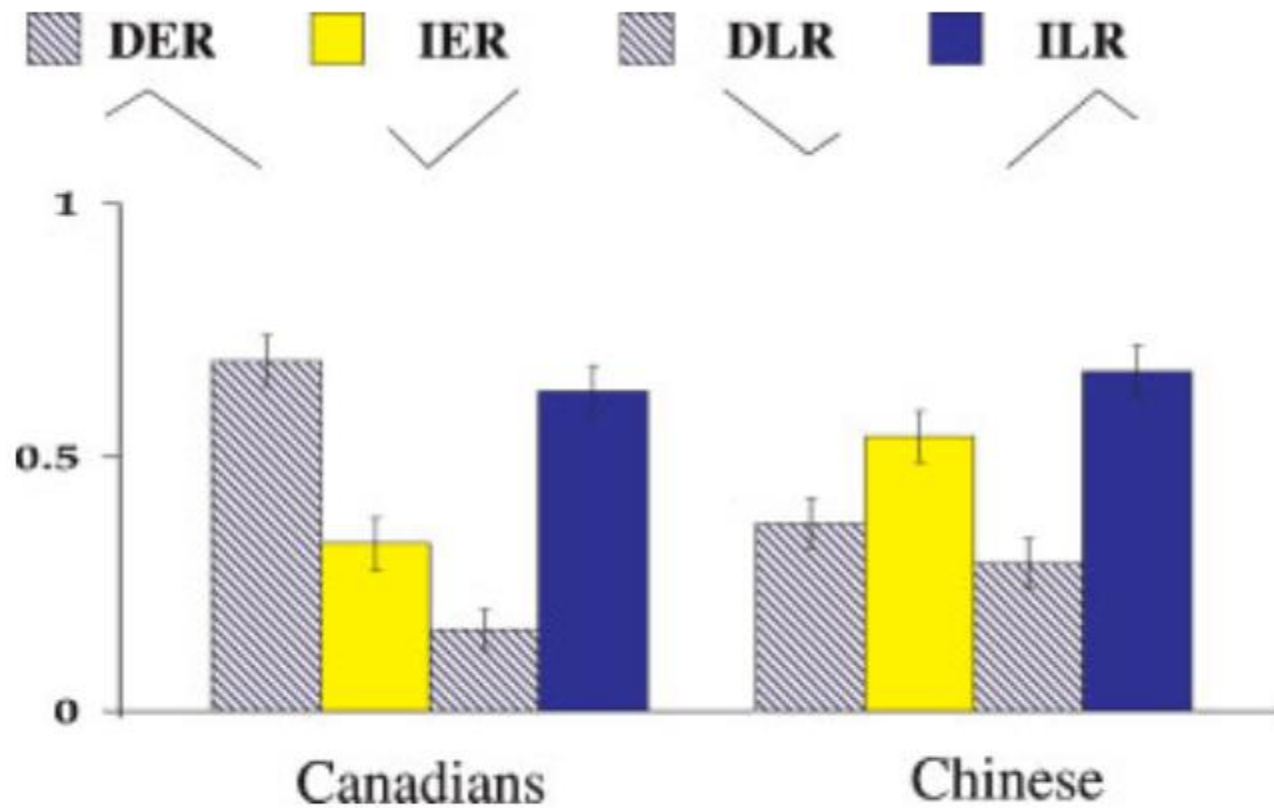


Figure 5. Are you going to sell this company's stock? (1 = yes, 0 = no) (Study 3)

Outlines

◆ Culture and ...

- Attention to the past
- Influences
 - ◆ Stock investment
 - ◆ Valuing the past and the future
 - ◆ Perceiving past and future change
 - ◆ Future self-continuity

◆ Culture and Temporal Value Asymmetry (Guo et al., 2012)



The Timeline for the Poor Guy



- ◆ Sue right after injury: the compensation is for the suffering **in the future?**
- ◆ Wait and sue after recovery: the compensation is for the same suffering **but in the past?**
- ◆ Does the time of suing really matter?

Temporal Value Asymmetry

(in North American Culture)

- ◆ A tendency for people to value future objects or events more extremely than equidistant past ones (Caruso, Gilbert, & Wilson, 2008)
 - Example: Asking more money for doing a job in the future than in the past.

Culture and Temporal Orientation

- ◆ Temporal Orientation (Jones, Banicky, Pomare, & Lasane, 1996; Strathman & Joireman, 2005)
 - Attention on the past, the present, and the future
 - A product of the culture (Kluckhohn & Strodtbeck, 1961)

North American

Future > Past

Chinese

Primarily Past Oriented

Factors that account for Temporal Value Asymmetry

	North American Culture	Chinese Culture
Temporal Orientation	Future > Past	More past oriented
	↓	↓
Temporal Value Asymmetry	Future > Past	Future ≤ Past

Hypothesis

Study 1a- A Vacation

- ◆ Participants: Canadians and Chinese
- ◆ Scenario (adapted from Caruso et al., 2008)

Imagine that you were talking with a friend about your plan to take a week-long vacation in Vancouver (Shanghai for Chinese participants). John, your acquaintance, happened to overhear your conversation. He mentioned that he had a well-furnished apartment in Vancouver that you were more than welcome to stay in. You felt that this was a wonderful opportunity for your vacation and agreed to this generous offer.

Study 1a- A Vacation

Scenario *(continued)*

- ◆ Past condition: *Now you have just returned home after the week-long vacation in Vancouver*
- ◆ Future condition: *Now you are about to leave for your vacation and will return home in one week.*

In order to show your appreciation for John's generous offer, you decide to get him a gift. You go to a store to order the gift.

- ◆ DV: *How much do you plan to spend on the gift?*

Results

- Transformation- convert the money in RMB to Canadian dollar according to the exchange rate at that time.

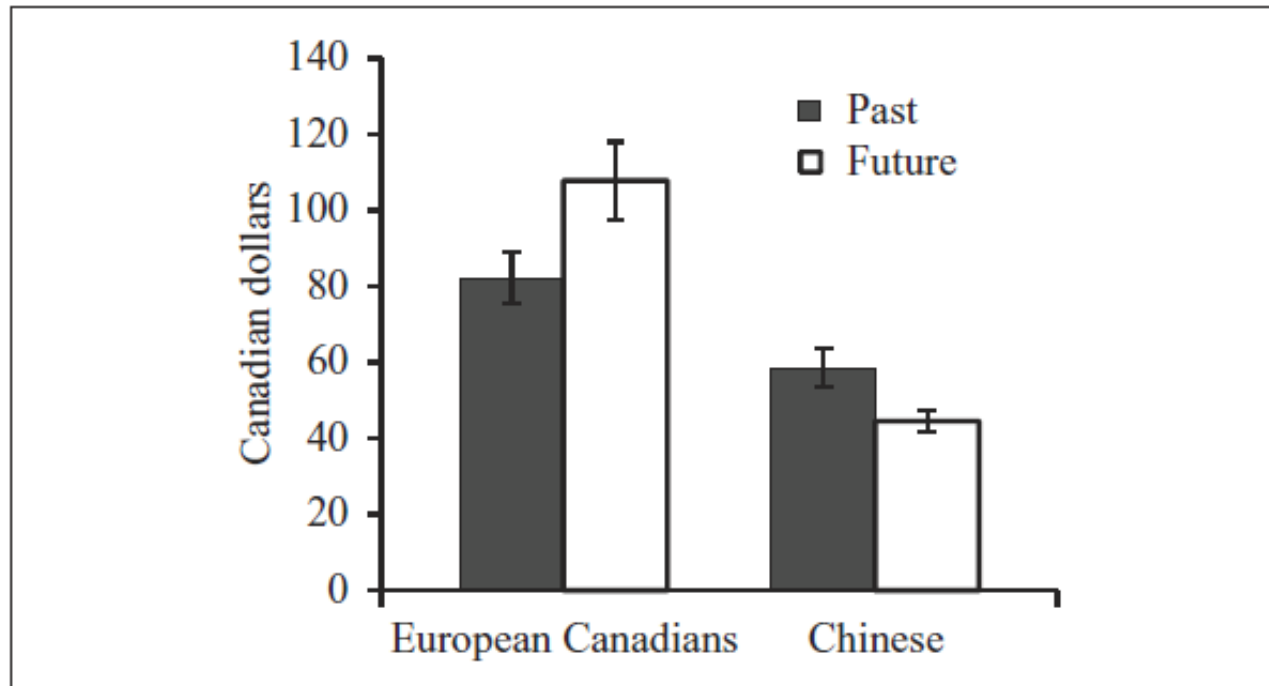


Figure 1. The amount of money European Canadians and Chinese were willing to spend for a past favor and for a future favor (Study 1a)

Study 1b- A Job

◆ Scenario (Caruso et al., 2008)

- 5-hour campus job: entering data from papers into a computer.
- Past condition: worked on the Saturday one month ago.
- Future condition: will work on the Saturday one month from now.
- DV: Payment?

Results: Temporal Value Asymmetry

Transformation- similar transformation as in Study 1a.

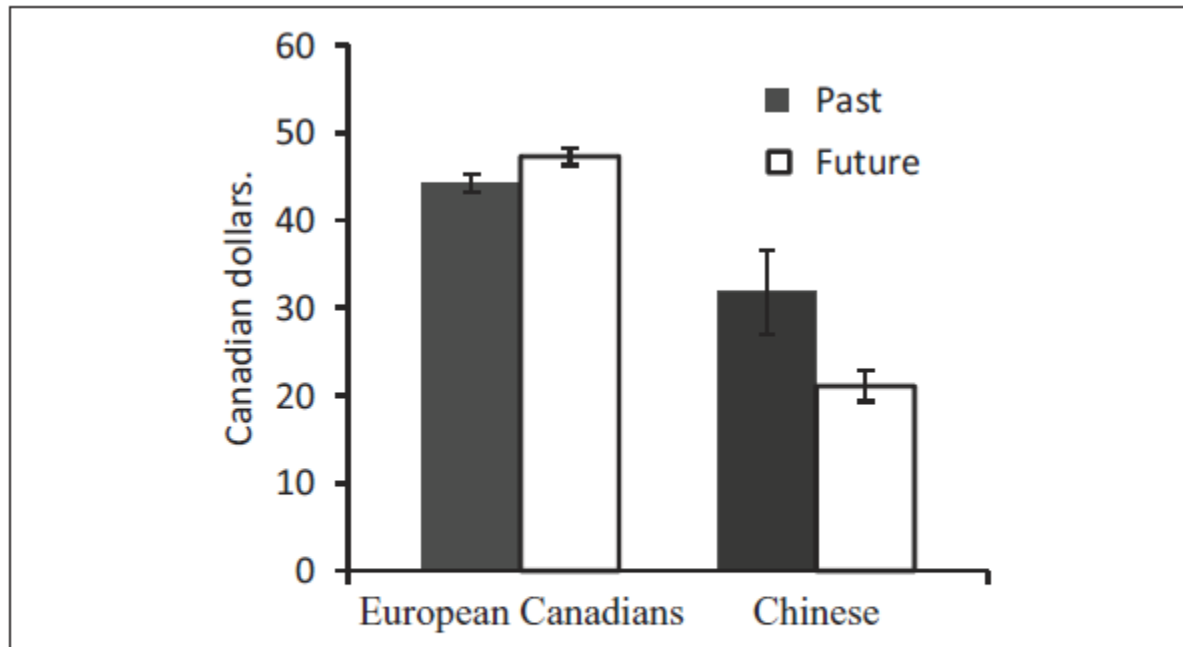


Figure 2. The amount of payment requested by European Canadians and Chinese for doing a past job and a future job (Study 1b)

Study 2: Reading Week Break

- ◆ A real world event
 - external validity
- ◆ Within-subject design
- ◆ Participants
 - European Canadians and Chinese Canadians

Study 2: Reading Week Break

◆ Procedure

- 2 weeks before the beginning of the reading week break
- 2 weeks after the end of the reading week break

◆ DV

- How much are you willing to pay to extend your future (past) reading week by three days...?

Results

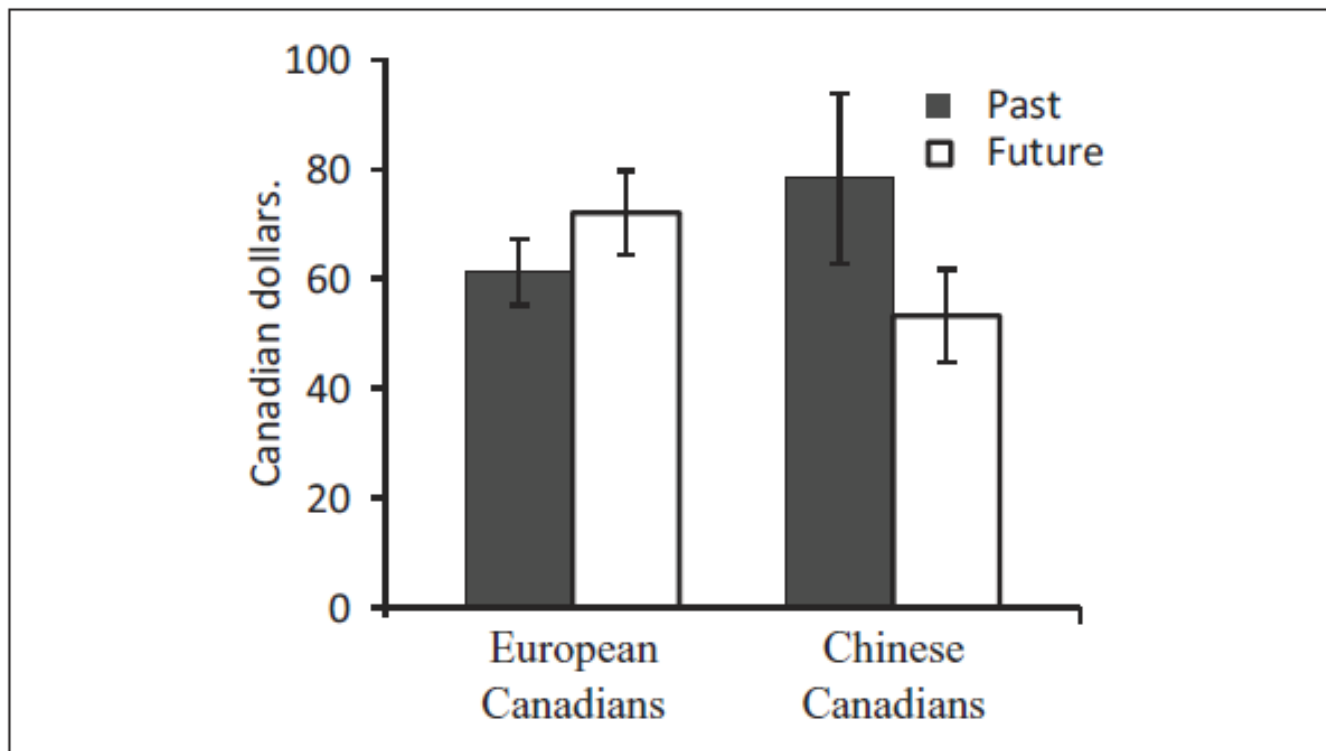


Figure 3. The amount of money European Canadians and Chinese Canadians were willing to pay for extending the past reading week and the future reading week (Study 2)

Study 3: Inducing Temporal Focus

- ◆ Induced to focus on either the past, or on the future
 - Participants were informed that people often think about their own past (future) and were asked to spend 2 to 3 minutes thinking about important things they had done in the past year (or important things they would do in the next year). Then they were asked to briefly write down 4 things they had just thought about.
- ◆ Past vs. Future Condition: Same as Study 1a.

Results

◆ Money on the gift

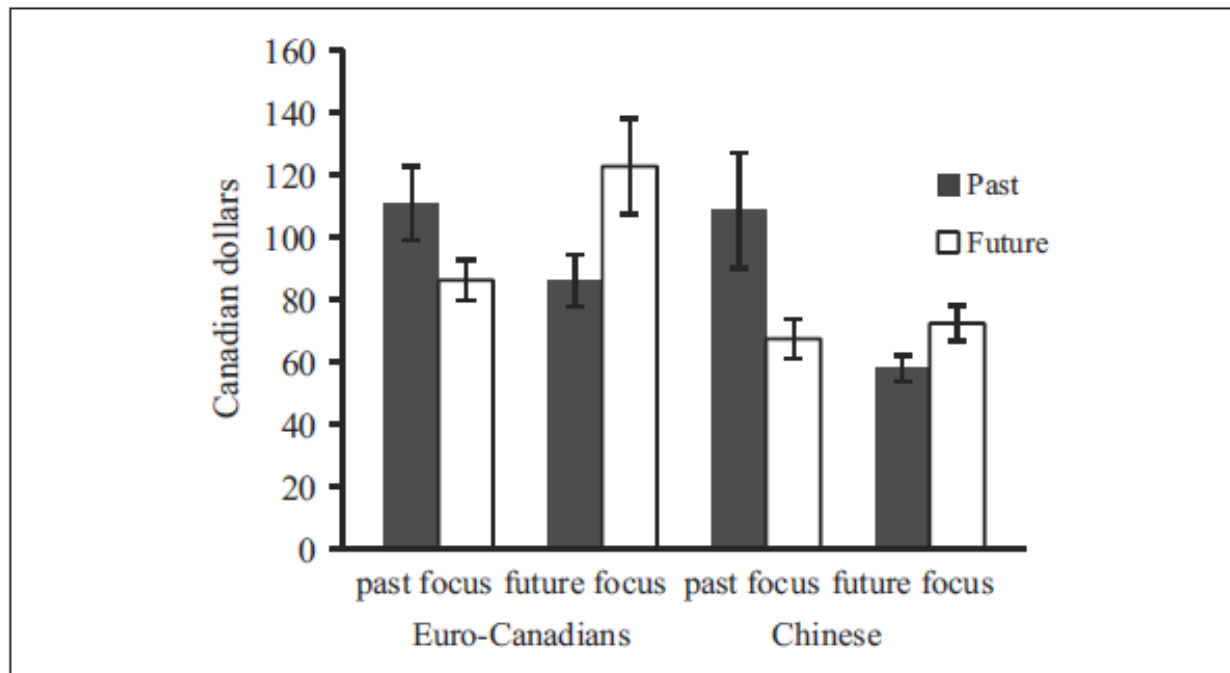


Figure 4. The amount of money European Canadians and Chinese were willing to spend for a past favor and for a future favor when being induced to focus on the past or future (Study 3)

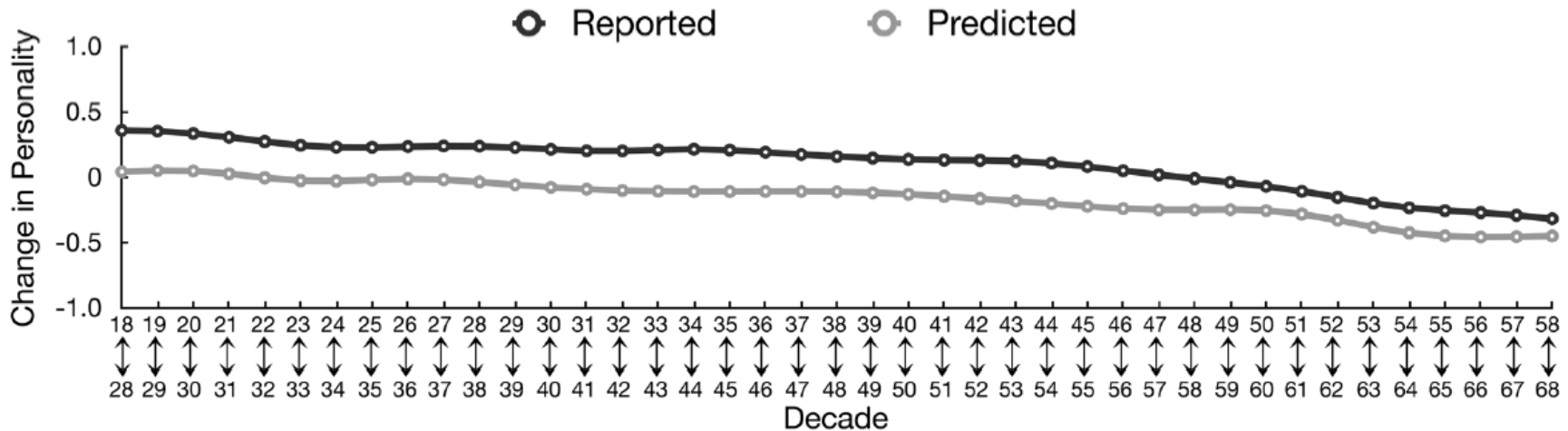
Outlines

◆ Culture and ...

- Attention to the past
- Influences
 - ◆ Stock investment
 - ◆ Valuing the past vs. the future
 - ◆ Perceiving past and future change
 - ◆ Past self-continuity

The end of history effect

- ◆ People expected that they would change less over a period of time in the future than they have changed over the same length of time in the past, which is mainly due to the underestimation of future change. (Quoidbach et al., 2013).



The temporal Doppler effect

- ◆ The end-of-history effect is consistent with the temporal Doppler effect:
 - Future events are psychologically closer than past events of equivalent objective distance (Caruso, 2013).

Table 1. Psychological Distance as a Function of Temporal Direction in Studies 1 and 2

Study and time or event	Past	Future
Study 1a: 1 month from present	6.52 (2.56)	5.22 (2.48)
Study 1b: 1 year from present	6.34 (2.13)	5.33 (2.43)
Study 2: Valentine's Day	0.76 (1.98)	-0.17 (1.64)

Note: Standard deviations are shown in parentheses. Psychological distance was rated using a scale ranging from 1 to 10 (in Studies 1a and 1b) or -3 to 3 (in Study 2). Higher scores indicate greater distance.

Culture and temporal asymmetry in perceived change

- ◆ Would the asymmetry in recalled changes in the past and anticipated changes in the future disappear for Chinese?
- ◆ Rationale:
 - People use lay theories to guide their recalls and predictions
 - One such lay theory is that things change more over a long period of time than over a short period of time.
 - Because Chinese perceived the past as being closer to the present than the equal distant future, the end of history effect may be smaller or disappear for Chinese participants.

Pilot tests on the lay theories

Please indicate how much you agree or disagree with each of the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Things tend to change more over a long period of time than over a short period of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Things tend to change less over a long period of time than over a short period of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Things tend to change the same amount over a long period time as over a short period of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- ◆ Both British and Chinese participants agreed the first statement more than the other two statements, and no cultural differences were found.

Culture and temporal asymmetry in perceived change

◆ Methods:

- Chinese and British Participants
- Big-five personality for present, 10 years ago, and 10 years in the future.

For each statement, first indicate how you see yourself now. Then imagine you were asked to complete the same personality measure 10 years ago. How would you see yourself 10 years ago?

For each statement, first indicate how you see yourself now. Then imagine you were asked to complete the same personality measure 10 years from now. How would you see yourself 10 years from now?

	Today I see myself as:	10 years ago I would see myself at the time as:		Today I see myself as:	10 years from now, I would see myself that time as:
Extraverted, enthusiastic.	<input type="checkbox"/>	<input type="checkbox"/>	Extraverted, enthusiastic.	<input type="checkbox"/>	<input type="checkbox"/>
Critical, quarrelsome.	<input type="checkbox"/>	<input type="checkbox"/>	Critical, quarrelsome.	<input type="checkbox"/>	<input type="checkbox"/>
Dependable, self-disciplined.	<input type="checkbox"/>	<input type="checkbox"/>	Dependable, self-disciplined.	<input type="checkbox"/>	<input type="checkbox"/>
Anxious, easily upset.	<input type="checkbox"/>	<input type="checkbox"/>	Anxious, easily upset.	<input type="checkbox"/>	<input type="checkbox"/>
Open to new experiences, complex.	<input type="checkbox"/>	<input type="checkbox"/>	Open to new experiences, complex.	<input type="checkbox"/>	<input type="checkbox"/>
Reserved, quiet.	<input type="checkbox"/>	<input type="checkbox"/>	Reserved, quiet.	<input type="checkbox"/>	<input type="checkbox"/>
Sympathetic, warm.	<input type="checkbox"/>	<input type="checkbox"/>	Sympathetic, warm.	<input type="checkbox"/>	<input type="checkbox"/>
Disorganized, careless.	<input type="checkbox"/>	<input type="checkbox"/>	Disorganized, careless.	<input type="checkbox"/>	<input type="checkbox"/>
Calm, emotionally stable.	<input type="checkbox"/>	<input type="checkbox"/>	Calm, emotionally stable.	<input type="checkbox"/>	<input type="checkbox"/>
Conventional, uncreative.	<input type="checkbox"/>	<input type="checkbox"/>	Conventional, uncreative.	<input type="checkbox"/>	<input type="checkbox"/>

Results

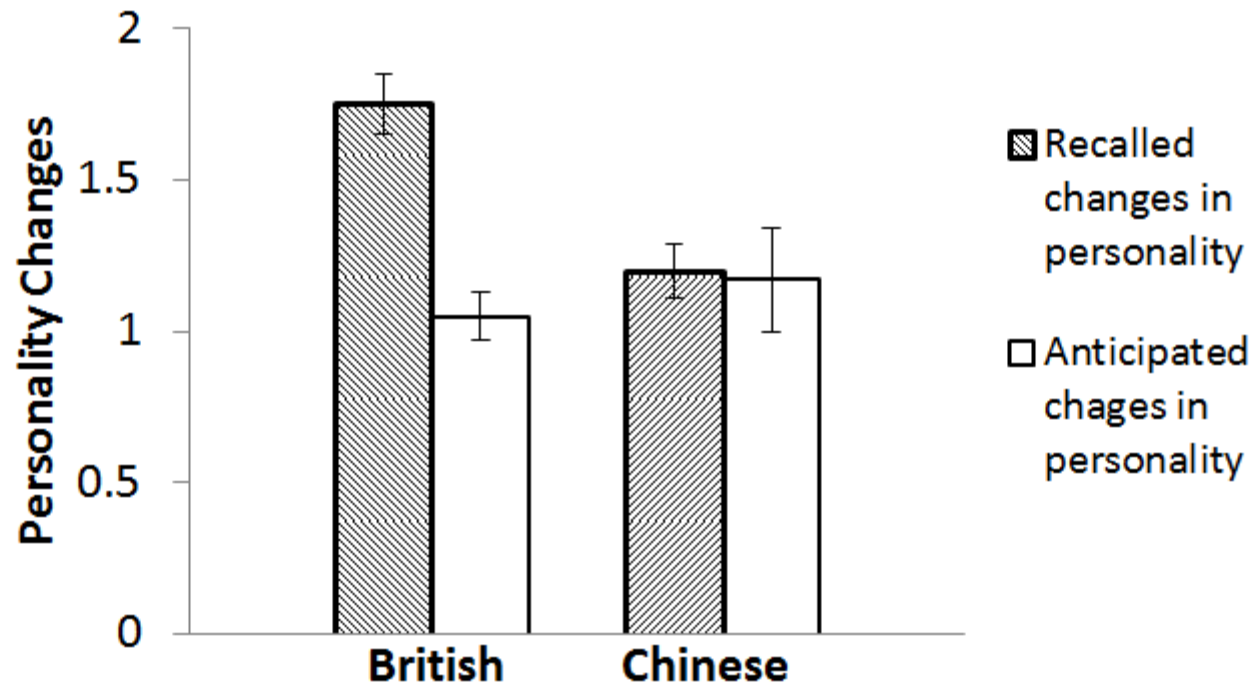


Figure 1. British and Chinese recalled personality changes in the past 10 years and their anticipated personality changes in the future 10 years. Error bars represent standard errors.

Study 2- Change in values

- ◆ The methods are similar as Study 1 except we measured change in values

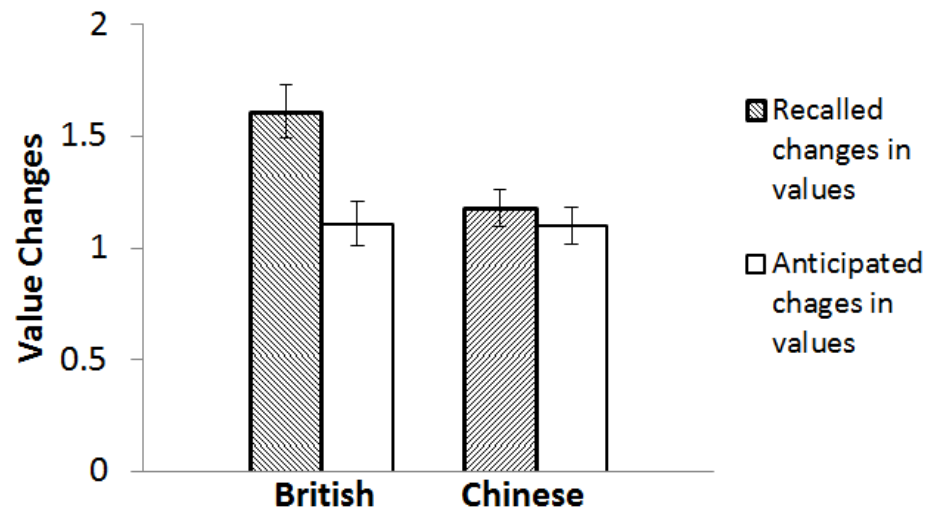


Figure 2. British and Chinese recalled value changes in the past 10 years and their anticipated value changes in the future 10 years. Error bars represent standard errors.

Results

◆ Personal changes in general

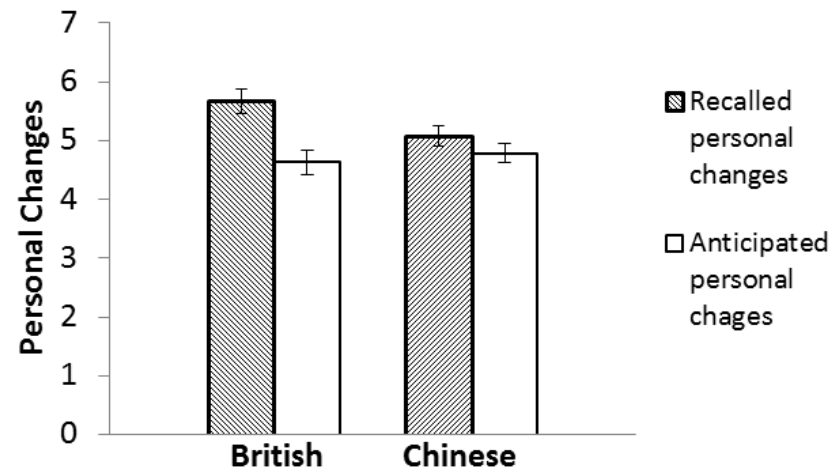


Figure 4. British and Chinese directly reported personal changes in the past 10 years and in the future 10 years. Error bars represent standard errors.

Results

◆ Psychological distances

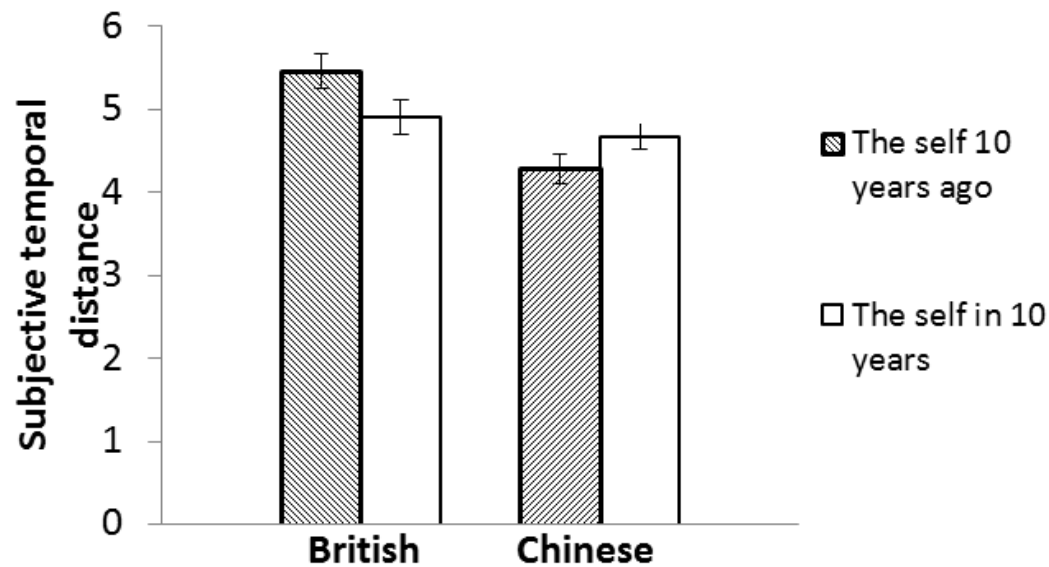


Figure 5. British and Chinese participants' subjective temporal distances of the past self 10 years ago and the future self in 10 years. Error bars represent standard errors.

Results

◆ Moderated mediation analysis

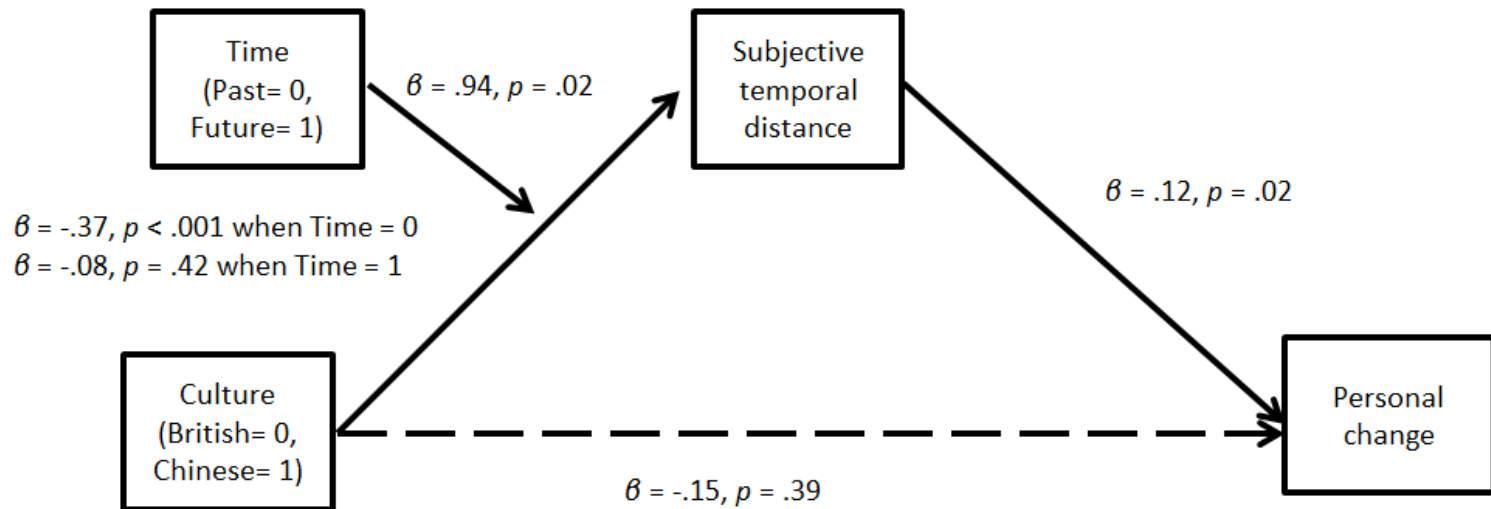


Figure 6. Subjective temporal distance mediated the effect of culture on recalled and expected personal changes.

Study 4- Personal change in the last year and in the next year.

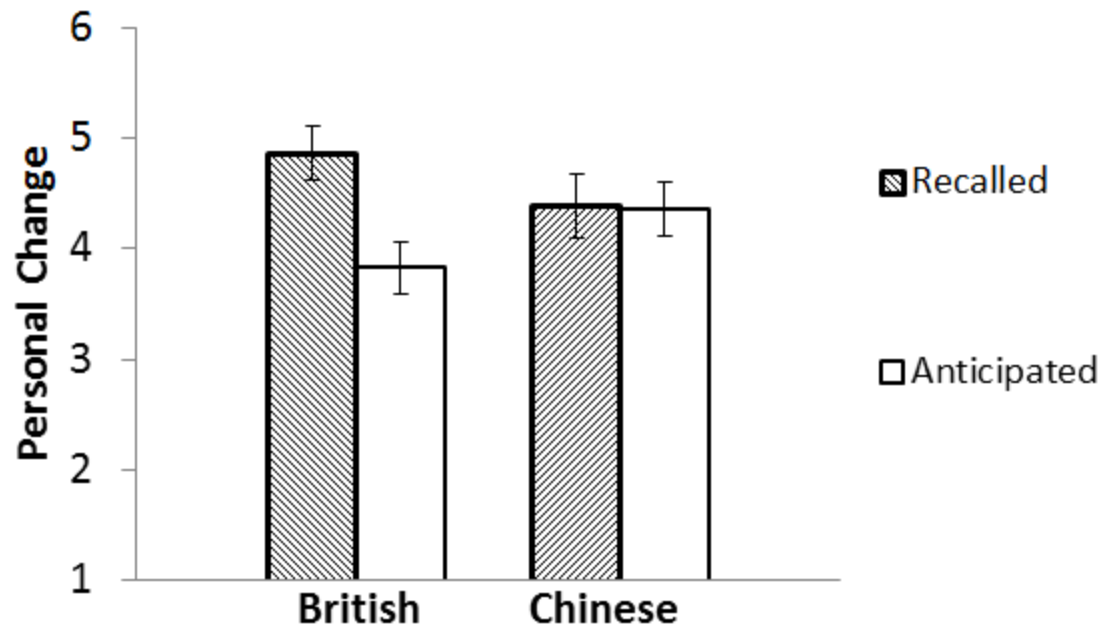


Figure 6. British and Chinese directly reported personal changes in the last year and in the next year. Error bars represent standard errors.

Results

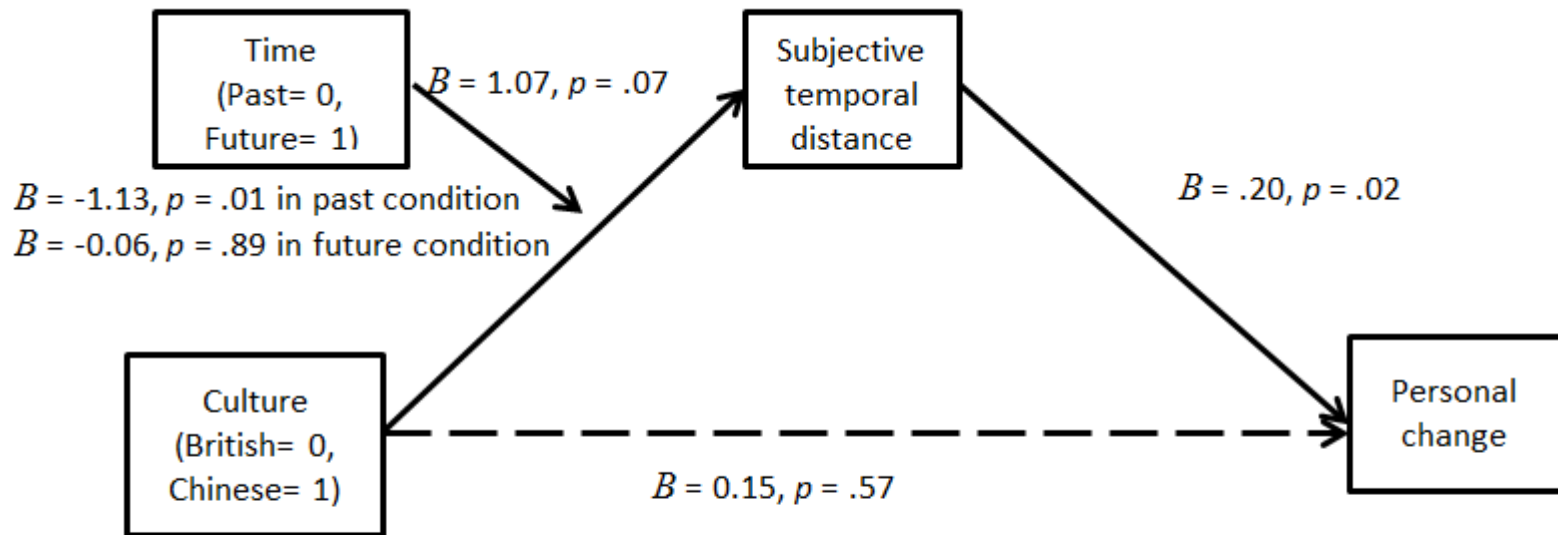


Figure 7. Subjective temporal distance mediated the effect of culture on recalled and expected personal changes.

Outlines

◆ Culture and ...

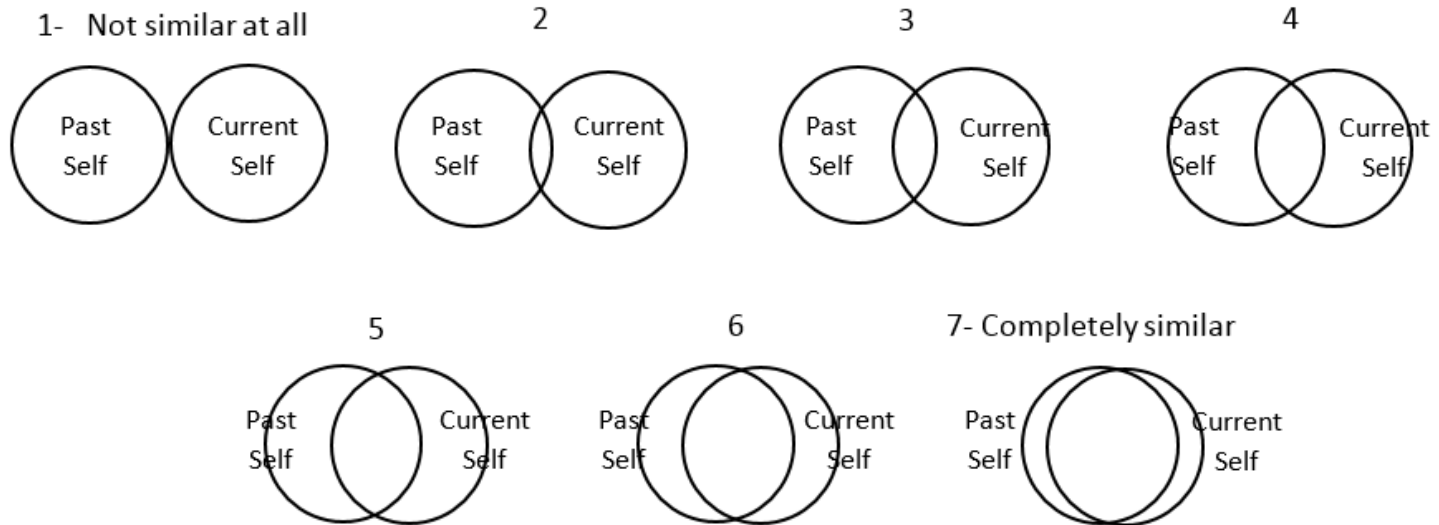
- Attention to the past
- Influences
 - ◆ Stock investment
 - ◆ Valuing the past vs. the future
 - ◆ Perceiving past and future change
 - ◆ Past self-continuity

Culture and past self-continuity

- ◆ Compared to Westerners, Chinese perceive past as being closer and see themselves changed less. Are Chinese more likely to perceive the current self as being connected to their past self?

Past self-continuity measure 1

◆ Inclusion of others



Past self-continuity measure 2

- ◆ Perceived stability of personal traits over time.
 - confident, motivated, empathetic, sociable, incompetent, irresponsible, inconsiderate, lonely
- Subjective temporal distance

Findings

- ◆ Measure 1: Overlap between their present and past selves
 - Chinese > Canadians
- ◆ Measure 2: Stability of personal traits
 - Chinese > Canadians
- ◆ Subjective temporal distance mediated the cultural effect on past self-continuity

What about future self-continuity?

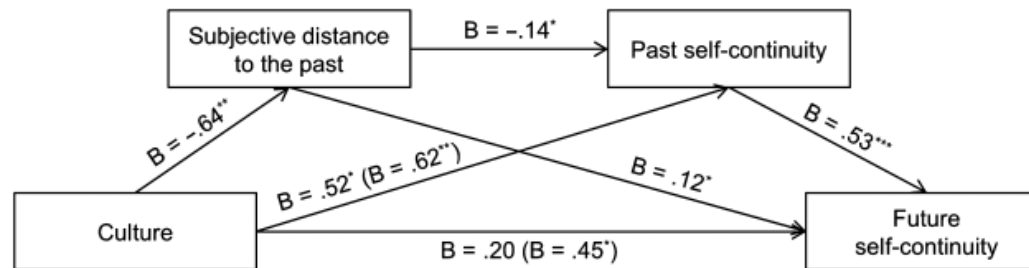


Fig. 1: Serial mediation model (Study 4). All coefficients are nonstandardized. Numbers in parentheses are nonstandardized coefficients when culture was the only predictor in the model (i.e., the total effect of culture on the particular variable). $*p < .05$. $**p < .01$. $***p < .001$

Why are Chinese more Past Oriented?

◆ Long history of China

- Since the practices from the past have worked for countless generations, it is wise to follow the past (Burkhardt, 1953; Yau, 1988; Brislin & Kim, 2003).

◆ Cyclical notion of time

- the same events are repeated, the future will be similar to the past (Biao, 2001)
- the problems in the present or in the future can be solved by focusing on the past and following the traditions.

◆ Less mobility

◆ Interdependent self-construal

Implications

- ◆ International relations
 - Sovereign right over territory
 - ...
- ◆ Cultural products
 - 古装剧?
 - Time travel: to the past or the future?

Collaborators & Research Assistants

- ◆ Li-Jun Ji, Queen's University
- ◆ Zhi-Yong Zhang, Peking University
- ◆ Roy Spina, University of Chichester
- ◆ Deanna Messervey, Queen's University

- ◆ Rebecca Sun
- ◆ Ricky Green
- ◆ and more...

Q&A



Thank you!

Tieyuan Guo: tguo@um.edu.mo