Age differences in the understanding of wealth and power: the mediating role of future time perspective

Tianyuan Li^{1,2} · Vivian Hiu-Ling Tsang^{1,2}

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Abstract Individuals' understanding of wealth and power largely determines their use of resources. Moreover, the age range of wealth and power holders is increasing in modern societies. Thus, the current study examines how people of different ages understand wealth and power. As varying future time perspective is related to changes in prioritised life goals, it was tested as a potential mediator of the age differences. A total of 133 participants aged 18–78 years were asked 8 open-ended questions regarding their understanding of the *possible use* and *desired use* of wealth and power, after which they reported their future time perspective. Compared with possible use, the participants mentioned relatively more prosocial elements when they talked about their desired use of the resources, especially power. The older adults expressed more prosocial understanding in regard to the desired use of wealth and the possible use of power compared to their younger counterparts. The age differences were fully mediated by future time perspective. The results suggest that age is a critical factor that influences individuals' conceptualisation of wealth and power. Life-span developmental stage and future time perspective are important factors to consider for explaining individual differences in the exercise of wealth and power and for promoting their prosocial usage.

Keywords Age · Wealth · Power · Future time perspective · Prosocial · Egoistic

Introduction

Both wealth and power are valuable and limited resources in human societies, and whether they are used primarily for public welfare or for resource holders' self-interests has a profound effect on sustainable societal development. With the occurrence of both a technology explosion (in which many young adults have taken leading roles) and population ageing, the age distribution of wealth and power holders has flattened in modern societies, and it is thus important to investigate how people of different ages conceptualise wealth and power differently. The current study takes the first step in examining age differences in the understanding of wealth and power and exploring the important role of future time perspective in explaining these age differences.

Taking a developmental perspective to study the understanding of wealth and power

Wealth and power are two major types of social resources that can profoundly affect society. They could be considered as two complementary forms of social influence. Wealth is about materialistic influence: it is the most *direct* and relatively *objective* type of resource, as it is used to obtain goods and services and to exert influence on others and society (Harvey and Bourhis 2012; Spilerman 2000). In contrast, power is about relational influence: it is *relative* status in the social hierarchy that grants people power, with which they can exert autonomous actions and influence

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✉ Tianyuan Li
tianyuanli@eduhk.hk

¹ Department of Psychological Studies, Education University of Hong Kong, Hong Kong, China

² Centre for Psychosocial Health, Education University of Hong Kong, Hong Kong, China

others (Fisher et al. 1995; Lips 1985, 1991; Maccoby and Jacklin 1974). Both resources are limited and are usually distributed unevenly in a society (Crédit Suisse 2015; UN 2013a). Overall wealth is limited by the total amount of material assets, and power is constrained by definition to a small number of people at the top of social hierarchies. Social disparity is a continuing challenge in many modern societies. The unequal distribution of resources can eliminate the benefits of economic growth on happiness (Oishi and Kesebir 2015). An effective way to ameliorate the detrimental effect of social inequality is to promote individuals' prosocial usage of wealth and power. Both wealth and power can be used either in a prosocial way to benefit others and the community or in an egoistic way to fulfil personal interests (Torelli and Shavitt 2010). If more wealth and power holders are willing to use a larger share of their resources to promote public welfare and social development, the overall wellbeing of the society will improve. To influence people's behaviour, it is critical to first examine how people understand wealth and power in prosocial and egoistic ways.

An emerging trend in modern societies is the expanding age range for wealth and power holders. On the one hand, population ageing is widespread around the globe. The percentage of adults aged above 60 years in the world population increased from 9.2 % in 1990 to 11.7 % in 2013 and is expected to reach 21.1 % by 2050 (UN 2013b). With improved medical technology and better health conditions, more people are choosing to stay in the job market into late adulthood. In 2010, labour force participation for people aged 65 years or above was around 31 % in less developed regions and 8 % in more developed regions (UN 2013b). Many countries are also planning to raise their official retirement age to cope with population ageing (e.g. Organization for Economic Co-operation and Development 2013). As a result of the growing ageing population and prolonged working life, older adults' wealth is increasing. Older adults are also found to hold influential leadership roles in the business world (Botham and Graves 2009).

At the same time, an increasing number of people are obtaining remarkable amounts of wealth and power at very young ages in modern societies. For example, in a study based on 685 entrepreneurs over 30 countries around the world, 55 % of the respondents reported that they had started their business before they were 30 years old (Vogel 2012). In other words, both younger and older adults are holding increasing shares of wealth and power. As different life stages are related to different prioritised life goals (Carstensen 2006), age differences need to be considered when studying individuals' understanding of wealth and power. Thus, the current study examines how people conceptualise wealth and power from a life-span developmental perspective.

Understanding of wealth and power matters

Previous research about the prosocial use of wealth and power depicts a complicated picture. One line of research suggests that wealth and power both lead people to be self-sufficient and less likely to conduct prosocial behaviour. Individuals in higher social classes (who often have abundant wealth and/or power) tend to be more self-focused, have a higher sense of agency and make more dispositional attributions (Kraus et al. 2009, 2011; Obhi et al. 2012; Piff et al. 2010). As they are less dependent on the collective support of the community, people with wealth and/or power tend to believe that individuals are in control of their lives and should bear the consequences of their own behaviour. Such cognitive and attribution biases can make them less likely to consider others' perspectives (Galinsky et al. 2006), to empathise with others' suffering (Stellar et al. 2012) or to endorse egalitarian beliefs (Guinote et al. 2015). All of these attributes constrain their altruistic tendencies. People with higher social status are also found to be more prone to unethical behaviour (Piff et al. 2012), as they tend to over-concentrate on their own benefits and not those of others (Dubois et al. 2015). These findings suggest a relatively pessimistic view of wealth and power holders' behaviour. It is therefore ironic that holders of wealth and power—those who have the resources to contribute to the public good—are more inclined to focus on personal interests and less likely to make prosocial contributions.

Another line of research suggests a more malleable view of wealth and power holders' behaviour. From this view, with wealth and power comes not simply self-interest and a reduced prosocial tendency but greater freedom for conducting all kinds of actions. Wealth and power holders are more likely to put their thoughts into action regardless of whether the thought is egoistic or prosocial. For example, Schervish and Havens (2001) interviewed 112 households from the uppermost tier of the US society in terms of wealth and found that most respondents felt that wealth brought them more choices and freedom in life. Similarly, power makes individuals less inhibited and more prone to various types of action (Galinsky et al. 2003; Keltner et al. 2003). Power holders are freer and more capable to carry out either antisocial or prosocial behaviour in accordance with their current thoughts (DeMarree et al. 2014). These findings suggest a more optimistic view regarding the possibility of guiding more wealth and power toward prosocial use. Given the high action tendency of wealth and power holders, prosocial understanding of wealth and power would naturally lead to more prosocial usage of wealth and power. Thus, the key to influencing wealth and power holders' behaviour is to promote prosocial

understanding of wealth and power. However, most previous studies only focused on observed behaviour associated with wealth and power. No study has examined people's cognition related to the use of wealth and power. The current study takes the first step in investigating how people of a wide age range understand wealth and power from different perspectives.

Possible versus desired use of wealth and power

To capture a comprehensive picture of people's understanding of wealth and power, we further distinguished between *possible* and *desired* uses of wealth and power. Understanding of the possible use of resources concerns individuals' accumulated knowledge regarding different ways of using wealth and power, while understanding of the desired use of wealth and power reflects an individual's opinion about the desired way to use wealth and power, which is shaped by both social and personal values. As wealth and power are both valuable and limited social resources, individuals' conceptualisations of the use of wealth and power can be heavily influenced by social and cultural norms. The participants' responses may also be highly contaminated by social desirability. Hence, distinguishing between possible and desired uses is important both theoretically (i.e. to determine the strength of social influence on people's understanding of wealth and power by comparing the two types of understandings) and practically (i.e. to partial out the effect of social desirability). The social influence on people's understanding will be captured in the desired use but not in the possible use of wealth and power. The understanding of the desired use of wealth and power is expected to contain more prosocial elements than that of the possible use.

Age differences in the understanding of wealth and power and the important role of future time perspective

Previous research has identified some dispositions that are relevant to individual differences in the use of wealth and power. For example, people with a horizontal collectivistic orientation tend to view power more as a tool to improve others' welfare (Torelli and Shavitt 2010). People with more of a communal relationship orientation are also found to pursue more social responsibility goals with power when interacting with strangers (Chen et al. 2001). However, given the increasing shares of wealth and power of younger and older adults, another gap in the literature is that no study has examined the prosocial usage of wealth and power from a life-span perspective. According to the socioemotional selectivity theory (Carstensen 2006;

Carstensen et al. 1999), people's prioritised goal changes dynamically across adulthood as future time perspective shrinks. Younger adults with an expansive future prioritise future-oriented goals, while older adults with a limited future focus more on short-term goals, especially on emotionally meaningful goals. This shift in prioritised goals has profound influences on cognition, emotion and behaviour. For example, older adults' attention and memory were found to be biased toward emotionally meaningful stimuli (Fung et al. 2010; Schlagman et al. 2006). Older adults also reported more positive emotional experiences and demonstrated better emotional control (Gross et al. 1997; Kisley et al. 2007). In regard to social relationships and interactions, emotional meaningfulness can be achieved through strengthening connections with other people and involvement in altruistic activities. Middle-aged and older adults reported higher levels of trust toward both close and distant social partners (Li and Fung 2012) and exhibited higher generativity commitment (i.e. concern for the future generation) than young adults (McAdams et al. 1993; Sheldon and Kasser 2001). To maintain meaningful social relationships (Okun and Schultz 2003), older adults also devoted more time to volunteering activities (Hendricks and Cutler 2004) and were more willing to donate money for the public good (Freund and Blanchard-Fields 2014). Moreover, being able to provide support to—rather than receiving support from—others contributes significantly to older adults' wellbeing (Thomas 2010). Summing up, older adults tend to show a stronger prosocial tendency in their social interactions.

On the basis of the above findings, we hypothesise that older age would be related to more prosocial understanding of wealth and power. In particular, during early adulthood, under the motivation of preparing for the future, younger adults may view wealth and power more as means to obtain social status and facilitate personal development. In contrast, after reaching late adulthood, with the motivation of finding emotional meaningfulness in life, older adults may view wealth and power more as resources to improve other people's wellbeing.

We expect future time perspective to be an important factor in mediating the age differences in the understanding of wealth and power. As a key element in socioemotional selectivity theory (Carstensen 2006), future time perspective has been identified as a mediator of many age-related differences. For example, future time perspective was found to mediate the negative association between age and promotion focus (Kooij et al. 2014). Future time perspective also mediated age differences in problem-focused problem-solving strategies (Yeung et al. 2012). Other studies further showed that manipulating future time perspective can modify existing age differences. When priming with an expansive future, older adults' preference

toward an emotionally close social partner was reduced (Fung et al. 1999) and their altruistic tendency toward money expenditure was also lessened (Freund and Blanchard-Fields 2014). Thus, the current study would also test the important role of future time perspective in mediating age differences in the understanding of wealth and power. Limited future time perspective is expected to explain the association between older age and more prosocial understanding of wealth and power.

Research questions and hypotheses

To conclude, going beyond observable behaviour related to wealth and power, the current study is the first attempt to investigate how people understand the possible and desired use of wealth and power. We aim to answer the following research questions. First, the study would examine what are people's egoistic versus prosocial understanding of wealth and power and what are the differences between understandings of possible versus desired use of wealth and power. We hypothesise that understanding of the desired use of wealth and power would contain more prosocial elements than understanding of possible use (Hypothesis 1). Second, the study would test how people of different ages understand wealth and power differently. We expect that older age would be related to more prosocial understanding of wealth and power (Hypothesis 2a), especially in regard to the desired use of wealth and power (Hypothesis 2b). Lastly, the study would explore the mechanism underlying the age-related differences in understanding of wealth and power. Future time perspective is expected to be a significant mediator for the age differences (Hypothesis 3).

Method

Participants

A total of 133 participants aged 18 to 78 years were recruited from different communities in Hong Kong ($M_{\text{age}} = 45.84$ years, $SD_{\text{age}} = 17.82$ years). Recruiting advertisements were posted on university campuses, and students were encouraged to refer the information to their family and friends. The gender distribution of the sample is equal, with 66 male ($M_{\text{age}} = 47.55$ years, $SD_{\text{age}} = 17.97$ years) and 67 female ($M_{\text{age}} = 44.16$ years, $SD_{\text{age}} = 17.64$ years) participants. The majority of the participants had education up to the secondary school level (48.1 %), reported average (34.6 %) to good (33.8 %) subjective health and had a monthly family income of less than 10,000 Hong Kong dollars (23.3 %) or 10,000 to 19,999 Hong Kong dollars (39.1 %).

Procedure

After giving consent, the participants were first interviewed by a research assistant who asked eight open-ended questions regarding their understanding of wealth and power. The research assistants were trained to follow the same protocol for each interview. All of the participants were instructed that there were no right or wrong answers and were encouraged to express their opinions as freely as possible. All of the interviews were audiotaped. The participants were then asked to provide some demographic information and fill out the Future Time Perspective Scale and a number of other scales that were irrelevant to the current study.

Measures

Understanding of wealth and power

To obtain a more comprehensive and unbiased picture regarding the participants' understanding of wealth and power, we used open-ended interview questions. A total of eight questions were asked (four for wealth and four for power). The questions were designed to reflect the distinction between *possible* versus *desired* uses of wealth and power. For each type, two questions were about possible use (i.e. 'In your opinion, what does it mean to possess wealth/power?' and 'In your opinion, what could wealth/power be used for?'), and the other two were about desired use (i.e. 'In your opinion, what should wealth/power be used for?' and 'What would you do if you possessed a significant amount of wealth/power?'). The questions were tested in a pilot study with four interviewees of different ages and genders. All reported no difficulty in understanding and answering the questions. All of the interviews were audiotaped and the interview scripts were transcribed afterwards for further analysis.

One experienced researcher read all of the transcribed scripts and developed coding trees for the wealth- and power-related questions. Consistent with Torelli and Shavitt's (2010) study, two main categories of codes were created, one for prosocial understanding and the other for egoistic understanding of wealth/power. Any content directly linked to the welfare of other people in general or to society was categorised as prosocial, whereas content related to self-interest was categorised as egoistic. Multiple codes were generated under each category based on the transcripts. The codes unrelated to the two categories were grouped as Others. Please refer to Tables 1 and 2 for a complete list of all of the codes for the wealth and power questions. Two research assistants were instructed about the coding tree and coded all of the interview scripts

Table 1 Counts of individual codes regarding understanding of wealth

Codes	Possible use of wealth	Desired use of wealth	Total
Egoistic codes	424	323	747
1. Basic materialistic requirement for one's own living	34	28	62
2. To purchase things in general or specific items or services	72	54	126
3. Fulfill one's own needs or realize one's dreams	45	46	91
4. Improve life quality	42	40	82
5. No need to worry, freedom to do things, enjoy life	49	24	73
6. More resources or choices	12	1	13
7. For family or friends	19	55	74
8. Investment, saving, or running business	22	61	83
9. Being wealthy, possessing valuable things	20	2	22
10. Happiness, satisfaction and other psychological benefits	32	7	39
11. Sense of security	7	1	8
12. Social status	19	1	20
13. Proof of effort or ability	14	0	14
14. Power	16	2	18
15. Control or influence others or the society	14	1	15
16. Do bad or illegal things for oneself	7	0	7
Prosocial codes	83	173	256
1. Contribute to society, do good things (general)	6	19	25
2. Donation or charity	26	59	85
3. Help others (special groups or general)	39	75	114
4. Contribute to society through specific means	11	19	30
5. Responsibility	1	1	2
Others	18	14	32
1. Use properly	2	10	12
2. Harm to the individual or society	13	1	14
3. Irrelevant	3	3	6

independently. Their interrater reliability was good ($\kappa = .74$ and $.70$ for the wealth- and power-related questions, respectively). All of the discrepancies between the two coders were then resolved by discussion. For each aspect of understanding of wealth or power (i.e. *possible use* versus *desired use*), we counted the total number of prosocial codes and egoistic codes for each participant and calculated a prosocial index using the following formula: (number of prosocial codes – number of egoistic codes)/ (number of prosocial codes + number of egoistic codes). In total, four prosocial indices were obtained, one for understanding about the possible use of wealth, one for the desired use of wealth, one for the possible use of power and one for the desired use of power.

Future time perspective

The ten-item Future Time Perspective Scale was adopted to measure future time perspective (Carstensen and Lang

1996). Three of the items were reversely coded. Sample items included 'Many opportunities await me in the future' and 'As I get older, I begin to experience time as limited' (reversed). Each item was rated on a seven-point Likert scale from *very untrue* (1) to *very true* (7). A higher score on the scale indicated a more expansive future time perspective (Cronbach's $\alpha = .86$).

Demographic information

At the end of the questionnaire, the participants reported their age, gender, education level (1 = below primary school; 2 = primary school; 3 = middle school; 4 = bachelor; 5 = above bachelor), monthly household income (1 = less than HK\$10,000; 2 = HK\$10,000–19,999; 3 = HK\$30,000–HK\$39,999; 4 = HK\$40,000– HK\$49,999; 5 = more than HK\$50,000) and subjective health (1 = poor; 2 = average; 3 = good; 4 = very good; 5 = excellent).

Table 2 Counts of individual codes regarding understanding of power

Codes	Possible use of power	Desired use of power	Total
Egoistic codes	287	113	400
1. Authority to make decisions	32	8	40
2. In control of manpower and other resources	60	29	89
3. Political leadership	9	1	10
4. Influence on others or the society	11	3	14
5. Convenience and efficiency to do things	15	7	22
6. Freedom and capability to do whatever I want	25	12	37
7. Capability to realize one's dreams or goals	8	29	37
8. Good feelings about oneself	3	0	3
9. Happiness and satisfaction	5	1	6
10. Respect and recognition by others	18	3	21
11. Wider social network	1	0	1
12. Social status	30	2	32
13. Wealth	17	3	20
14. Privileges	6	3	9
15. Conduct illegal and bad things (general)	6	1	7
16. Fulfill one's own or family members' needs or desires (negative)	20	7	27
17. Coerce, bully or unfairly treat others	21	4	25
Prosocial codes	105	243	348
1. Contribute to the society (general)	20	34	54
2. Do good things (general)	6	6	12
3. Use properly (do's and don'ts)	5	19	24
4. Responsibility and expectation	6	7	13
5. Educate the next generation	4	1	5
6. Improve the society by public policies (specific suggestions)	12	26	38
7. Facilitate the development of one's group (e.g. company, organization, etc.)	3	13	16
8. Foster communication, listen to people, reduce conflicts	6	13	19
9. Maintain harmony	5	5	10
10. Ensure fairness (equal distribution, fair rules, etc.)	8	31	39
11. Ensure justice (enforce the law and rules, punish transgressors)	6	25	31
12. Good influence to others through leadership	7	9	16
13. Help other people	17	54	71
Others	25	15	40
1. Distance from others	2	0	2
2. Corrupt or blind the power holder	9	2	11
3. Cause societal or interpersonal conflicts or chaos	5	0	5
4. Irrelevant	9	13	22

Results

Tables 1 and 2 present all of the detailed codes for the participants' understanding of wealth and power and the total number of counts for each code in the current sample. It is interesting to note that the number of codes generated for prosocial understanding of power (13) is much higher than that for prosocial understanding of wealth (5),

suggesting that the participants provided more specific answers regarding how to use power for prosocial ends.

The means, standard deviations and correlations between the variables are presented in Table 3. As expected, the prosocial index for understanding of the desired use of wealth ($M = -.30$, $SD = .54$) was higher than that for possible use of wealth ($M = -.66$, $SD = .39$), $t(132) = 6.92$, $p < .001$. The prosocial index for

Table 3 Means, standard deviations and correlations between the variables

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Age	45.84	17.82	–								
2. Education ^a	3.01	1.03	-.49**	–							
3. Monthly family income ^b	1.54	1.47	-.17	.31**	–						
4. Subjective health ^c	2.82	1.01	-.13	.19*	-.01	–					
5. FTP	2.92	.81	-.54**	.28**	.04	.20*	–				
6. Possible use of wealth	-.66	.39	-.04	.04	-.04	.20*	.07	–			
7. Desired use of wealth	-.30	.54	.18*	-.13	-.10	-.05	-.23**	.20*	–		
8. Possible use of power	-.45	.63	.26**	-.12	-.01	-.09	-.29**	.02	.09	–	
9. Desired used of power	.38	.71	.05	-.00	.01	.00	-.13	.01	.24**	.12	–

^a 1 = below primary school; 2 = primary school; 3 = middle school; 4 = university; 5 = above university

^b 1 = less than HK\$10,000; 2 = HK\$10,000–19,999; 3 = HK\$30,000–HK\$39,999; 4 = HK\$40,000–HK\$49,999; 5 = more than HK\$50,000

^c 1 = poor; 2 = average; 3 = good; 4 = very good; 5 = excellent

* $p < .05$; ** $p < .01$

understanding of the desired use of power ($M = .38$, $SD = .71$) was also higher than that for possible use of power ($M = -.45$, $SD = .63$), $t(130) = 10.56$, $p < .001$. The results suggest that people can differentiate between the possible use and desired use of wealth and power. Moreover, social values have shifted people's understanding of the desired use of wealth and power more toward the prosocial end. Another noteworthy result was that only the prosocial index for the desired use of power was significantly higher than zero, $t(131) = 6.17$, $p < .001$, indicating that the participants mentioned more prosocial codes than egoistic ones. The other three prosocial indices were all significantly lower than zero, $ps < .001$, indicating that more egoistic codes were mentioned than prosocial ones. These results reflect a particularly strong social norm that promotes the prosocial use of power.

Age and the understanding of wealth and power

A mixed-model ANCOVA was conducted to test age differences in the understanding of wealth and power. The four prosocial indices calculated were used in the analyses. The subject for understanding (*power* vs. *wealth*) and the aspect of understanding (*possible use* vs. *desired use*) were entered as two within-subject factors. Age was entered as a continuous between-subject covariate in the model. All of the two-way and three-way interactions among the three factors (i.e. subject, aspect and age) were estimated. A significant subject $\times$ aspect $\times$ age interaction was found, Wilks' $\Lambda = .94$, $F(1, 129) = 8.98$, $p = .003$, $\eta^2 = .07$. In addition, there was a significant main effect of subject, Wilks' $\Lambda = .97$, $F(1, 129) = 4.38$, $p = .038$, $\eta^2 = .03$ (suggesting more prosocial understanding of power than of

wealth across different aspects in the whole sample), a significant main effect of aspect, Wilks' $\Lambda = .86$, $F(1, 129) = 20.25$, $p < .001$, $\eta^2 = .14$ (suggesting more prosocial understanding for desired use than for possible use of resources in the whole sample), a significant main effect of age, $F(1, 129) = 6.19$, $p = .014$, $\eta^2 = .05$ (suggesting more prosocial understanding for older adults across different subjects and aspects) and a significant subject $\times$ aspect interaction, Wilks' $\Lambda = .85$, $F(1, 129) = 22.31$, $p < .001$, $\eta^2 = .15$. Figure 1 illustrates the age differences in the understanding of wealth and power (possible use and desired use) in detail.

To further explore the significant three-way subject $\times$ aspect $\times$ age interaction, we examined the aspect $\times$ age interactions for the understanding of wealth and power separately. In two mixed-model ANCOVAs (one for understanding of wealth and one for understanding of power), the aspect of understanding (*possible use* vs. *desired use*) was entered as a within-subject factor and age was again entered as a continuous covariate.

Age differences in understanding about possible versus desired use of wealth

For the participants' understanding of wealth, the aspect $\times$ age interaction was significant, Wilks' $\Lambda = .96$, $F(1, 131) = 4.92$, $p = .028$, $\eta^2 = .04$, suggesting that the associations between age and the two aspects of understanding were different. The main effects of aspect and age were not significant. Two multiple regressions were conducted to examine age differences in understanding about possible and desired uses of wealth. The results showed that age was positively related to more prosocial understanding of the desired use of wealth, $\beta = .18$,

Fig. 1 Age differences in prosocial understanding of possible and desired use of wealth and power. * $p < .05$; ** $p < .01$

$t(131) = 2.09$, $p = .039$, but was not significantly related to prosocial understanding of the possible use of wealth, $\beta = -.04$, $t(131) = -.51$, *ns*.

Age differences in understanding about possible versus desired use of power

For the participants' understanding of power, the aspect $\times$ age interaction was marginally significant, Wilks' $\Lambda = .98$, $F(1, 129) = 3.25$, $p = .074$, $\eta^2 = .03$. Moreover, the main effect of aspect, Wilks' $\Lambda = .81$, $F(1, 129) = 30.69$, $p < .001$, $\eta^2 = .19$, and the main effect of age, $F(1, 129) = 5.55$, $p = .020$, $\eta^2 = .04$, were both significant. Two multiple regressions were again conducted to test age differences in the two aspects of understanding of power. Interestingly, the results were opposite to those regarding understanding of wealth. Age was not significantly related to prosocial understanding of the desired use of power, $\beta = .05$, $t(130) = .61$, *ns*, but was positively related to prosocial understanding of the possible use of power, $\beta = .26$, $t(130) = 3.11$, $p = .002$.

Future time perspective as the mediator of age differences

The above analyses revealed significant age differences in the understanding of the desired use of wealth and possible use of power. We examined whether these age differences were mediated by future time perspective. Using multiple regressions, age was found to be negatively related to future time perspective, $\beta = -.54$, $t(131) = -7.36$, $p < .001$. Future time perspective was also negatively related to prosocial understanding of the desired use of

wealth, $\beta = -.23$, $t(131) = -2.64$, $p = .009$ and possible use of power, $\beta = -.29$, $t(130) = -3.41$, $p = .001$.

We then tested future time perspective as a mediator for the age differences in understanding of the desired use of wealth. The mediation model was analysed using SPSS Amos (Arbuckle 2012). The direct path from age to understanding of the desired use of wealth and the indirect path through future time perspective were simultaneously tested in the model. The bootstrapping method was used to estimate all of the coefficients. The mediation model was just-identified. The direct effect from age to understanding of the desired use of wealth was no longer significant, $\beta = .08$, *ns*, 95 % CI = $[-.12, .27]$, while the indirect effect from age to understanding of the desired use of wealth through future time perspective was significant, $\beta = .10$, $p = .048$, 95 % CI = $[.001, .213]$. The results indicate that future time perspective significantly mediated age differences in understanding of the desired use of wealth. Older age was related to more limited future time perspective, which was further related to more prosocial understanding of the desired use of wealth.

The same mediation model was tested using SPSS Amos with understanding of the possible use of power as the outcome variable. Similarly, the direct effect from age to understanding of the possible use of power was no longer significant, $\beta = .15$, *ns*, 95 % CI = $[-.05, .33]$, while the indirect effect from age to understanding of the possible use of power through future time perspective was significant, $\beta = .11$, $p = .010$, 95 % CI = $[.04, .22]$. The results indicate that future time perspective significantly mediated age differences in understanding of the possible use of power as well. Older age was related to more limited future time perspective, which was further related to more prosocial understanding of the possible use of power.

Discussion

The current study is the first attempt to examine how people of different ages understand wealth and power. First, it revealed that people can distinguish between the possible use of wealth and power and desired use. Consistent with Hypothesis 1, under the influence of social values, the participants' understanding of the desired use of wealth and power is significantly more prosocial than that of possible use. Moreover, the prosocial tendency in understanding of the desired use of power was particularly strong. The average prosocial index for desired use of power was the highest and was the only positive index among the four types of understandings (see Table 3). In regard to age differences in understanding of wealth and power, Hypotheses 2a and 2b were partially supported. Older age was significantly related to more prosocial understanding of the desired use of wealth and possible use of power but not to the other two types of understanding. Moreover, Hypothesis 3 was supported, as future time perspective was identified as a significant mediator of the two significant age differences identified. Older adults' more prosocial understanding of wealth and power may be explained by their more limited future time perspective.

The current findings provide further support for the socioemotional selectivity theory and the essential role of future time perspective in explaining age-related differences. According to the socioemotional selectivity theory, limited future time perspective leads older adults to focus on emotionally meaningful goals (Carstensen 2006). Remaining connected to society through social relationships is an important way for older adults to achieve emotional meaningfulness (Lang and Carstensen 2002; Li and Cheng 2015; Li et al. 2015). Providing support to others and participating in volunteer work were also found to significantly benefit older adults' subjective wellbeing (Greenfield and Marks 2004; Morrow-Howell et al. 2003). In addition, older adults may be more dependent on the community as they transition to retirement and experience other inevitable losses in later adulthood (e.g. the loss of loved ones or declining physical abilities). More prosocial understanding of wealth and power may enhance older adults' feeling of being connected to society. Given the emphasis on social connectedness and emotional meaningfulness, older adults tend to conceptualise wealth and power more as resources with which to improve other people's wellbeing and to benefit and connect with the community. As older adults face a limited future time perspective, more prosocial understanding and usage of wealth and power may also generate greater meaning for their lives.

This study filled two gaps in the current literature. First, previous research has revealed that wealth and power

holders are more likely to put their thoughts into action (DeMarree et al. 2014; Galinsky et al. 2003), but no study has directly examined people's thoughts about wealth and power. The key to guiding more wealth and power toward prosocial usage is to promote prosocial understanding of wealth and power, which is beneficial not only for the sustainable development of a society but also to the well-being of wealth and power holders (Aknin et al. 2012, 2013; Dunn et al. 2008). By revealing the pattern of egoistic and prosocial understanding of wealth and power in respondents' open-ended answers, the current study took the first step toward understanding people's general thoughts about wealth and power and laid a foundation for further studies relevant to changing the behaviour of wealth and power holders.

Second, the current study examined the conceptualisation of wealth and power from the life-span developmental perspective. Age was found to be significantly related to how people conceptualise wealth and power. Introducing the developmental perspective to wealth and power research is critical because the distribution of wealth and power among different age groups is more flattened in modern societies than before. Wealth and power are not only possessed by middle-aged adults; increasing numbers of young and old adults are becoming wealth and power holders. Hence, understanding how people of different ages conceptualise wealth and power differently becomes a key question for studying individual differences in wealth- and power-related behaviour. The prosocial tendency in older adults' understanding of wealth and power identified by the current study provides a critical starting point for further investigation.

Moreover, by identifying future time perspective as the mediator of age differences, the current results may inform possible strategies to promote altruistic use of wealth and power. While people's ages cannot be changed, previous studies have shown that future time perspective is malleable, at least in the short term (Freund and Blanchard-Fields 2014; Fung et al. 1999). Highlighting the fact that time is limited and we should treasure every moment may be an effective strategy for stimulating donations in fundraising activities for charities or promoting more prosocial usage of power in organisations. The sense of limited time may elicit stronger activation of prosocial understanding of wealth or power, which may then guide individuals to use wealth or power for more altruistic ends. However, although this direction is promising, more studies are needed to test the comprehensive effect of future time perspective.

The current study also provides an interesting contrast between individuals' understanding of wealth and that of power. Although wealth and power are both limited and valuable resources that imply social influence, they also

differ in many aspects. Wealth represents materialistic influence, while power represents relational influence. Previous research has not compared people's conceptualisation of the two constructs. Through open-ended interviews, we found that the participants provided more elaborative descriptions (i.e. a variety of different codes in the coding tree) regarding egoistic use of wealth and power and prosocial use of power. However, the participants' descriptions of prosocial use of wealth are comparably vague and general (i.e. a limited number of codes). This pattern may reflect the fact that people encounter fewer types of prosocial use of wealth in daily life, so they conceptualise the prosocial use of wealth in more general terms.

To obtain a more comprehensive picture of people's understanding of wealth and power, the current study also distinguished between the understanding of desired use and that of possible use of wealth and power. An interesting finding is that age differences were significant for the understanding of the desired use of wealth and possible use of power but not for the understanding of the possible use of wealth and desired use of power. Understanding of the possible use of wealth and power concerns personal knowledge of ways to use wealth and power, while understanding of the desired use of wealth and power is derived from both personal values and social expectations. Compared to power, wealth is more present in daily life, as people are constantly exposed to various scenarios that involve money or other materialistic resources from a very young age (Valkenburg and Cantor 2001). Thus, there may be smaller age differences in personal knowledge regarding the possible use of wealth. In addition, as long as it is legally acquired, wealth is usually considered a legitimate personal possession, so the desired use of wealth is less constrained by social expectations and is open to more individual differences and developmental changes. Thus, the age differences were more salient in terms of the understanding of the desired use of wealth than that of the possible use of wealth. In contrast, power is always a social asset. It evolved to facilitate efficient group actions that ensured the survival of human ancestors (Keltner et al. 2008). For the social hierarchy to be evolutionarily adaptive, followers should only support leaders who prioritise the group's interests. In other words, there are strong social expectations regarding how power should be used, which allows little room for age differences in regard to the understanding of the desired use of power. The strong social expectation for the prosocial use of power is also reflected in the finding that the understanding of the desired use of power had a particularly high prosocial index among the four types of understandings. Meanwhile, older adults' personal knowledge regarding the possible use of power may be enriched as they accumulate more life experience,

and they may be more susceptible to the influence of limited future time perspective, thus displaying more salient age differences. The distinction between possible and desired uses of wealth and power provides a more comprehensive illustration of how people of different ages conceptualise wealth and power.

One limitation of the present research is its cross-sectional design. The age differences in the prosocial understanding of wealth and power may be partially due to the cohort effect instead of developmental change. The interpretation of the mediating effect of future time perspective is also limited by the cross-sectional design. No causal conclusions can be drawn from the current data. Future studies can test changes in individuals' understanding longitudinally. Moreover, the current study tested individuals' understanding of wealth and power but not the actual usage of wealth and power. Future research can further examine age differences in actual behaviour regarding wealth and power usage and whether these age differences could be explained by older adults' more prosocial understanding of wealth and power. Further, the current study did not measure the participants' actual levels of wealth and power. Although anyone can be a wealth and power holder under certain circumstances, the thoughts of those in possession of larger amounts of wealth and power can be more influential on society. Future studies can focus on this population. As this is a pioneering study of the understanding of wealth and power, the coding tree for the participants' open responses was developed by a researcher without a basis in theory. Future studies can refer to the coding results of this study and use a more theory-driven approach to develop coding schemes. Questionnaires can also be developed based on the interviews to offer a more standardised and concise way to measure possible and desired uses of wealth and power. Such measurement tool may greatly benefit future studies on this topic. Finally, previous research has found that culture also affects people's conceptualisation of power (Torelli and Shavitt 2010). Whether older adults' prosocial understanding of wealth and power can be generalised to different cultures also needs to be tested.

To conclude, the current study examined people's understanding of the possible and desired uses of wealth and power. More importantly, it tested whether age was associated with conceptualisation of wealth and power. Consistent with the socioemotional selectivity theory, older age was associated with more prosocial understanding of the desired use of wealth and possible use of power. Future time perspective fully mediated the age differences. This is the first attempt to investigate understanding of wealth and power, which is a critical factor that determines wealth and power holders' behaviour. The association between limited future time perspective and prosocial understanding of

wealth and power offers a possible direction for future investigations into the promotion of the altruistic use of these resources. Moreover, as there is increasing divergence in the ages of wealth and power holders in modern societies, it is important to adopt a life-span developmental perspective when researching wealth and power. The age differences identified in the current study suggest that future research into wealth and power should also take individuals' ages into consideration.

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