

# Middle aged beautiful women don't like their futures?

-A Finding of “Komachi”-effects ? / effects of the measure of the beauty on the temporal discount rates -

Yoshio SAKURAI

## 1. Introduction

The 21st Century COE Program “Behavioral macro dynamics based on surveys and experiments” was an epoch-making one for me. Because it did some research which had got such variables that the social scientists (especially Japanese ones) had not investigated. I had been investigating what implications and how many perspectives from evolutionary psychology would give sociology. This research collected some evolutionary psychological variables. I wish to investigate how the evolutionary psychological variables affect human behavior and preferences. In this article, I investigate how beauty of each person affects her/his temporal discount rates. Ikeda and Tutui (2006) already analyzed what socio-economical variables have effects on temporal discount rates of persons. But they analyzed only the variables in so-called face sheets. Therefore other relations between evolutionary psychological variables and other variables were not analyzed. I wish to analyze some of the relations. In this article, I tried to analyze a variable, “beauty”. The variable, “beauty” is one of the most important factors for animals from bio-Darwinian view point. Because “beauty” is the most important factor in “sexual selection”, the concepts, “sexual selection” and “natural selection” are the biggest principles for bio-Darwinism. But as far as I know, the variable, “beauty” have not been measured or analyzed in Japanese sociology.

As a first trial, I checked relations between the variable, beauty and her/his temporal discount rate. From the evolutionary psychological view, the beauty, especially the one of female mankind, is an index of her youngness and/ or her reproductive forces (Buss 1994). If so, I think we might expect that more beautiful female persons dislike her future more. More beautiful female persons would lose more benefits than not such female persons or male persons. Especially, this effect would be found more often in middle aged female persons, because such female persons would feel such kind of temporal change deeply than younger female, older female or male persons.

## **2. Materials and Methods**

I analyzed data-sets of the 21st Century COE Program “Behavioral macro dynamics based on surveys and experiments”. The data-set which I analyzed was the one of 2006. The outlines of the data were; method: two-stage stratified random sampling of the case, starting date: 2007, 1, statistical population: all over Japan, ages: 20 - 69, number of the sample: 3660, the number of the survey response: 3112 and the survey response rate: 85.03%.

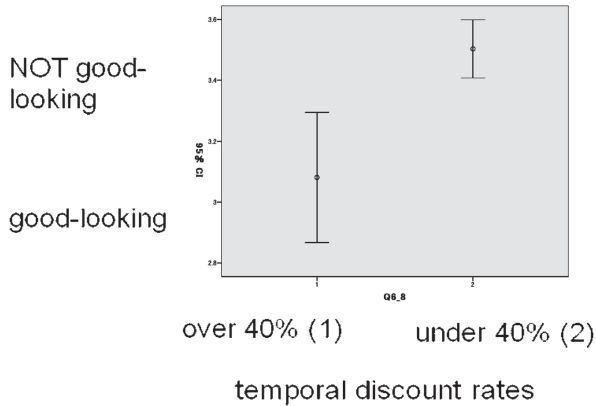
The survey asked participants;

“6. Now let's assume that you have the option to receive \$100 in one month or receive a different amount in thirteen months. Compare the amounts and timing in Option “A” with Option “B” and indicate which amount you would prefer to receive for all 8 choices.”

## **3. Results**

I found significant effects on a temporal discount rate of the beauty of the middle aged females.

First, I present a correlation between the beauty of the middle aged females and their temporal discount rates (whether they are under 10% (1) or over 10% (2))



Second, I present a result of the simple linear regression analysis below. Q3\_15: the beauty  
 q6zz: the temporal discount rates

Dependent variable	R	R Square	Adjusted R Square
the temporal discount rates	.150 <sup>a</sup>	.022	.019

	B	beta	t value	p value
Intercept	16.196		5.672	.000
Beauty (Q3_15)	-2.224	-.150	-2.769	.006

a. Dependent variable: the temporal discount rates (q6zz)

As above, I think we can find the variable, beauty has an effect on the variable, the temporal discount rate. According to the scoring, this effect is positive (the more beautiful females have bigger temporal discount rates).

However, these results were not controlled by other variables. I controlled them with some variables; FQ2: Do you currently have a spouse? FQ5\_2: dominant

hand from birth FQ6: your birth years FQ9: the highest level of education (or equivalent) completed by you

FQ11num:# of children FQ29: the annual earned income before taxes and with bonuses included of your entire Household FQ39: do you have any liabilities or debts presently?

The results after being controlled by these variables are below;

Dependent variable	R	R Square	Adjusted R Square
the temporal discount rates	.221 <sup>a</sup>	.049	.020

	B	beta	t value	p value
Intercept	579.228		1.201	.231
Q3_15	-2.207	-.148	-2.729	.007
FQ2	1.251	.035	.508	.612
FQ5_2	1.691	.113	2.056	.041
FQ6	-.290	-.066	-1.180	.239
FQ9	-.094	-.012	-.220	.826
FQ10	-.115	-.056	-1.024	.307
FQ11	1.431	.035	.525	.600
FQ28	.140	.012	.221	.826
FQ29	-.196	-.032	-.531	.596
FQ39	.874	.035	.612	.541

a. Dependent variable: the temporal discount rates (q6zz)

As described above, even after being controlled by some face sheet-variables, the variable, beauty (Q3\_15) has an effect on the variable the temporal discount rate. According to the order of the values of the variable (“It Is Particularly True For You” = 1), the effect is positive.

However, how about the same effects in other cohort of same gender or in other gender? I analyzed other combinations between genders and cohorts.

This is results on younger cohorts of same gender.

Dependent variable	R	R Square	Adjusted R Square
the temporal discount rates	.209 <sup>a</sup>	.044	.020

		B	beta	t value	p value
	Intercept	-351.491		-1.124	.262
	Q3_15	1.244	.088	1.593	.112
	FQ2	1.830	.069	.815	.416
	FQ5_2	-.037	-.002	-.039	.969
	FQ6	.180	.074	1.135	.257
	FQ9	-.658	-.090	-1.584	.114
	FQ11num	-.015	-.047	-.539	.590
	FQ29	-.668	-.094	-1.633	.103
	FQ39	2.057	.082	1.433	.153
a. Dependent variable: the temporal discount rates (q6zz)					

This is results on older cohorts of same gender.

Dependent variable	R	R Square	Adjusted R Square
the temporal discount rates	.155 <sup>a</sup>	.024	.011

		B	beta	t value	p value
	Intercept	-534.250		-2.757	.006
	Q3_15	.919	.060	1.467	.143
	FQ2	-.024	.000	-.016	.987
	FQ5_2	-.377	-.041	-1.016	.310
	FQ6	.279	.123	2.788	.005
	FQ9	-.194	-.023	-.536	.592
	FQ11num	.011	.021	.498	.619
	FQ29	-.394	-.067	-1.461	.144
	FQ39	1.236	.043	1.017	.310
a. Dependent variable: the temporal discount rates (q6zz)					

This is results on same cohort of the other gender.

Dependent variable	R	R Square	Adjusted R Square
the temporal discount rates	.232 <sup>a</sup>	.054	.024

		B	beta	t value	p value
	Intercept	701.023		1.138	.256
	Q3_15	-.197	-.011	-.170	.865
	FQ2	5.854	.139	1.521	.129
	FQ5_2	.814	.042	.686	.493
	FQ6	-.353	-.069	-1.124	.262
	FQ9	-.481	-.069	-1.064	.288
	FQ11num	-.012	-.025	-.271	.787
	FQ29	-.753	-.110	-1.697	.091
	FQ39	2.738	.086	1.352	.178
a. Dependent variable: the temporal discount rates (q6zz)					

This is results on all cohorts of the other gender.

Dependent variable	R	R Square	Adjusted R Square
the temporal discount rates	.131 <sup>a</sup>	.017	.011

	B	beta	t value	p value
Intercept	155.028		1.964	.050
Q3_15	-.224	-.013	-.451	.652
FQ2	1.880	.049	1.167	.244
FQ5_2	.239	.019	.656	.512
FQ6	-.076	-.064	-1.850	.065
FQ9	-.218	-.033	-1.074	.283
FQ11num	-.006	-.013	-.305	.760
FQ29	-.084	-.012	-.406	.685
FQ39	3.595	.121	3.985	.000
a. Dependent variable: the temporal discount rates (q6zz)				

As analyzed above, there no similar significant effects of the beauty to the temporal discount rates in other cohort in same gender or in other gender. Meanwhile it seems that the middle aged females have these effects.

#### 4. Discussion

I found the beauty ONLY of the middle aged female persons has a positive effect on her temporal discount rate. Why does it do? Perhaps some interpretations would be possible. But I would like to mention a hypotheses as the first one; because more beautiful middle aged female persons more dislike their future than average ones, which is because the beautiful females are likely to feel the decaying the beauty according with time more than other groups.

In Japan, there were a classical famous “very beautiful” poet, Ono=no Komachi. She made a famous poem,” 花の色は うつりにけりな いたづらに 我が身世にふる ながめせしまに”. It is said that the poem deplored the time and her beauty was passing by likening the flowers scattering. I think we could name this effect after her name as “Komachi-effect”.

Of course, this interpretation itself is no more than one of possible hypotheses. Anyway it seems me that both this finding and my interpretation are very interesting. Henceforth I would like to analyze other variables, test my interpretation and give other interpretations. I would like to analyze similar relations in other nations’ data, because the similar researches have already been done in US, China and India.

(I wish to thank the 21st Century COE Program “Behavioral macro dynamics based on surveys and experiments”.)

[Reference]

Buss David M. 1994 *The evolution of desire: strategies of human mating*

池田新介・筒井義郎, 2006, 「アンケート調査と経済実験による危険回避度と時間割引率の解明」, 『証券アナリストジャーナル』 FEB, 2006, Vol.44, No.2, 70-81.