The elderly faced with risk : time perspectives part in gambling

Maylis Fontaine, Céline Lemercier, Valérie Le Floch, Aurélie Mouneyrac,
Pierre-Vincent Paubel

The elderly faced with risk : time perspectives part in gambling

Fontaine, M., Lemercier, C., Le Floch, V., Mouneyrac, A., Paubel, P.V.

UNIVERSITÉ TOULOUSE Jean Jaurès CLLE CNRS SAINT JOSEPH

Contact
maylis.fontaine@univ-tlse2.fr

ESOF 2018
EUROSCIENCE OPEN FORUM
TOULOUSE

Background

Statistics

- More than **50%** of French people gamble at least once a year (ODJ, 2015).
- Between 2000 and 2016 (ODJ, 2017) : **- 1.1%** of budget allocated to leisure
  + 1.6% of this allocated to gambling
- Between 2010 and 2014 (ODJ, 2015) : **+ 11.5%** of gamblers aged 45-75
- **Seniors** from 55 to 64 years old : first consumers of gambling (INSEE, 2014)
- High Consumption → excessive consumption → addictions (Philips, 2009)

However, the gambling behavior of this population is rarely investigated

Reference models

<u>Illusion of control</u> (Langer, 1975) : "an expectancy of a personal success probability inappropriately higher than the objective probability would warrant"
→ Increases risk-taking and gambling persistence

<u>Risk-taking</u> (Mather et al., 2012) : loss aversion of seniors aged 55 to 89
→ Make riskier choices than youth in loss situations

<u>Time perspectives</u> (Zimbardo & Boyd, 1999) : Emotional and cognitive dynamic relationships that a person has with his past, his present-day inscription, and his projections into the future
→ Influence attitudes and behaviors / influenced by age

Aims

This empirical study attempts to describe the elderly specificities and to explain them in relation to time perspectives (TP), risk-taking and the illusion of control (IC). Understanding these specificities in terms of gambling behavior is necessary to develop preventive measures specific to the age.

Experiment A

- 391 participants

	Youth	Adults	Middle-aged	Seniors
	115 (M_{age}=20.86)	86 (M_{age}=30.59)	82 (M_{age}=44.57)	108 (M_{age}=65.19)

- Gambling on a computer media on line

- Sequence of outcomes ascending / descending
- Risk-taking measure (Martinez Formula, 2004)
- Questionnaires IC / TP (Apostolidis & Fieulaine, 2004)

Results Experiment A

- Increased risk-taking with age
- Sequence of outcomes influence risk-taking

Risk-taking as function of age and sequence of outcomes

$F(3,382) = 5.72, p < .001, \eta2 = 0.04$
$F(1,382) = 31.96, p < .001, \eta2 = 0.08$

H =

Fit indices : $\chi^2 = 2.85$, $p = .241$, $CFI = 0.99$, $TLI = 0.96$, $RMSEA = .03$, $SRMR = .02$

- ✗ No mediation effect but direct effects :
- ✓ Decreased illusion of control with age (β= -0.12, p = .038, [95% IC = -0.24, -0.01])
- ✓ Positive influence of the fatalistic present on the illusion of control (β= 5.13, p = .002, [95% IC = 1.91, 8.42])
- ✓ Negative Influence of Age on the Negative Past and the Present Hedonist (β= -0.01, p < .001, [95% IC = -0.014, -0.006] ; β= -0.005, p = .001, [95% IC = -0.007, -0.002])

Discussion

The online gambling used in experiment A required special skills, thereby occurring a possible elderly's selection bias. A second experiment was therefore conducted with a face-to-face gambling and different type of elderly population.

Experiment B

- 44 participants

	Youth	Independent Seniors	Dependent Seniors
N (Mean age)	15 (M=23.07)	15 (M=67.27)	14 (M=87.64)
MMSE	M=29.47	M=27.73	M=26.21

- Gambling based on dice rolls face-to-face

- Mini Mental State Evaluation (MMSE)
- Risk-taking measure (Martinez Formula, 2004)
- Questionnaires IC / TP (Apostolidis & Fieulaine, 2004)

Results Experiment B

- Fatalistic Present influenced by age/dependence

Fatalistic Present as funtion of group

$F(2,41) = 16.89, p < .001, \eta2 = 0.45$

- Fatalistic Present ↔ Illusion of control

Correlation between Fatalistic Present and Illusion of control

$r = .31 ; p = .041$

Discussion - Conclusion

- The elderly take more risks in gambling than the younger people.
- The present fatalistic TP positively influences the illusion of control, thus, to perceive the present as determined by uncontrollable forces would paradoxically increase the perceived level of control. This result is not inconsistent if considered in regard to the illusion of secondary control (Ejova, 2013 ; Wohl & Enzle, 2002). Indeed, if searching for gain goes by individual's actions at the primary level, it goes by higher nonphysical forces at the secondary level. Thus, believing in uncontrollable but favorable forces would be the expression of an illusion of secondary control ("I'm lucky").
- An age effect on the past negative TP and on present hedonistic TP also arises in the first experience. In the second, age/dependence influence the present fatalistic.
- Seniors must therefore be considered as a specific population requiring targeted prevention measures. As an innovative and promising approach, the inclusion of time perspectives in the risk behaviors evaluation would allow the development of preventive measures specific to the age but also to the individual's TP profile.

References

Apostolidis, T., & Fieulaine, N. (2004). Validation française de l'échelle de temporalité. Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 54(3), 207-217. https://doi.org/10.1016/j.erap.2004.03.001

Ejova, A. (2013). The illusion of control : influencing factors and underlying psychological processes. University of Adelaide, Australia.

Langer, E. J. (1975). The illusion of control. Journal of personality and social psychology, 32(2), 311-328.

Martinez, F., Gaffié, B., & Le Floch, V. (2004). Lien entre l'annonce du résultat d'autrui, l'illusion de contrôle et la prise de risque dans un jeu de hasard et d'argent. Le mirail, Toulouse, France.

Mather, M., Mazar, N., Gorlick, M. A., Lighthall, N. R., Burgeno, J., Schoeke, A., & Ariely, D. (2012). Risk preferences and aging: The "certainty effect" in older adults' decision making. Psychology and aging, 27(4), 801.

Phillips, W. J. (2009). Senior casino motivation and gaming intention: An extended theory of planned behavior model. Kansas State University. Consulté à l'adresse http://krex.k-state.edu/dspace/handle/2097/1124

Wainstein, L., Grall-Bronnec, M., & Venisse, J.-L. (2008). Caractéristiques des conduites de jeux chez le sujet âgé. NPG Neurologie - Psychiatrie - Gériatrie, 8(46), 17-22. https://doi.org/10.1016/j.npg.2008.07.003

Wohl, M. J. A., & Enzle, M. E. (2002). The deployment of personal luck: sympathetic magic and illusory control in games of pure chance. Personality and Social Psychology Bulletin, 28(10), 1388-1397. https://doi.org/10.1177/014616702236870

Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. Journal of Personality and Social Psychology, 77(6), 1271-1288. https://doi.org/10.1037/0022-3514.77.6.1271