

Journal of Personnel Psychology

The impact of occupational rewards on risk taking among managers

--Manuscript Draft--

Manuscript Number:	JPPSY-D-16-00029R3
Full Title:	The impact of occupational rewards on risk taking among managers
Short Title:	Risk taking among managers
Article Type:	Research Note
Keywords:	occupational rewards; job promotion; job security; risk taking; managerial decision making.
Corresponding Author:	Arianna Costantini University of Verona Verona, Verona ITALY
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	University of Verona
Corresponding Author's Secondary Institution:	
First Author:	Andrea Ceschi, PhD
First Author Secondary Information:	
Order of Authors:	Andrea Ceschi, PhD Arianna Costantini Stephan Dickert, PhD Riccardo Sartori, PhD
Order of Authors Secondary Information:	
Author Comments:	The manuscript is intended for the special issue: "Reward Management - Linking Employee Motivation and Organizational Performance"
Abstract:	Managers often have to deal with the financial and ethical risks that companies face. Evidence from risk management research suggests a negative relationship between people's age and risk taking tendencies. Within such a framework, the present contribution examines how different perceived occupational rewards may mediate or interact within the relationship between age and risk taking of managers at the company-level. Our results show that perceived rewards in terms of job security partially mediate the relationship between age and ethical risk taking, while perceived rewards related to job promotion moderate the effect of age on financial risk taking. We further discuss the role of different organizational strategies to preserve an organization's health.
Suggested Reviewers:	
Opposed Reviewers:	
Response to Reviewers:	Dear Dr. Antoni, Re: Manuscript reference No. JPPSY-D-16-00029R1 Please find attached a revised version of our manuscript "The impact of occupational rewards on risk taking among managers", which we would like to resubmit for publication as a research note in the Journal of Personnel Psychology under the special issue "Reward Management – Linking Employee Motivation and Organizational Performance". Your comments and those of the reviewers were highly insightful and enabled us to

greatly improve the quality of our manuscript. In the following pages are our point-by-point responses to each of the comments of the reviewers as well as your own comments.

We hope that the revisions in the manuscript and our accompanying responses will be sufficient to make our manuscript suitable for publication in Journal of Personnel Psychology under the special issue "Reward Management – Linking Employee Motivation and Organizational Performance".

We shall look forward to hearing from you at your earliest convenience.

Yours sincerely,

Arianna Costantini

Address: Università degli Studi di Verona, Dipartimento di Scienze Umane,
Lungadige Porta Vittoria 17 – 37129 Verona, Italy

Ph: +39 045 802 8140

Fax: +39 045 802 8018

E-mail: arianna.costantini@apreso.org

Reviewers' comments

1. p. 7 "To test whether the effects of age on risk taking are mediated by job security and job promotion, we mean-centered and standardized these variables and used bootstrapping following the PROCESS procedure recommended by Hayes (2013)." centering of independent and moderating variables is recommended for moderation analysis the alternative is standardization. If you used Process the option provided is centering.

I would suggest you write instead of "To test for the possible moderating effects of job security, job promotion, and esteem we used the PROCESS macro (Hayes, 2013)." To test for the possible moderating effects of job security, job promotion, and esteem, we mean-centered these variables and used bootstrapping following the PROCESS procedure recommended by Hayes (2013). To test whether the effects of age on risk taking are mediated by job security and job promotion, we used bootstrapping following the PROCESS procedure recommended by Hayes (2013).

Response: We followed your suggestion and re-wrote this part accordingly.

2. p. 8 Please also report the regression coefficients and bootstrap intervals for the indirect effects (ab) age via job security on ERT and FRT, although one could calculate it oneself.

Response: We provided the regression coefficients and bootstrap intervals for the indirect effects (ab) age via job security on ERT and FRT.

3. p. 8 job security and FRT $B = -.21$; $p = .063$ that is non significant if tested two-sided; $p < .1$; What about the bootstrap interval? one could argue significant as it is a directed hypothesis!

Response: We edited this part (and the following accordingly) dropping the result referred to job security and FRT, since it showed a statistical tendency only.

4. p. 8 what does Pm mean? Ratio of indirect to direct effect?

Response: We added a note stating that the Percent Mediation indicates the percent of the total effect (c) accounted for by your indirect effect (a*b).

5. p. 8 I would suggest to integrate the two indirect effects in Figure 2 and skip the moderation figure there (you could rather integrate in figure 1 - but I think this is not necessary given table 2)

Response: We integrated the two tested indirect effects and skipped the moderation figure.

6. p.8 Discussion: (consistent with figure 1) promotions are low (not lower) also p. 9 opportunities are low p. 11 last sentence what did you mean with ... improve their performance ...? Performance was not mentioned before.

Response: We edited the discussion in order to be consistent with the constructs

	<p>analyzed in the contribution.</p> <p>7. Figure 1 integrate the single slope regression coefficients and add a note regarding p and B Response: We integrated the single slope regression coefficients.</p>
Additional Information:	
Question	Response
Has the manuscript or any component of it already been published or is currently under consideration by another journal?	No
Has this manuscript been submitted previously to this journal?	Yes
Does the research meet ethical guidelines, including adherence to the legal requirements of the study country?	Yes
Do the authors have any conflicts of interest?	No
State the word count of the manuscript including references but excluding tables and figures.	4185
Has the manuscript been prepared according to language and style recommendations of the Publication Manual of the American Psychological Association (6th ed.)?	Yes
Have you removed all references to author names and affiliations from the manuscript, tables, figures, and appendices to ensure an anonymous review process?	Yes
Please give the date of the submission, the title, and the manuscript number of the previously submitted manuscript. as follow-up to "Has this manuscript been submitted previously to this journal?"	03/07/2016, "Empirical evidence of occupational rewards on risk taking tendencies among managers", JPPSY-D-16-00029.
<p>Has the manuscript or any component of it already been published or is currently under consideration by another journal?</p> <p>Note: If a paper based, in whole or in part, on the present sample and/or data has already been published or is under consideration elsewhere, authors MUST reveal this and explain in their letter to the editor precisely how the paper contributes beyond previous submissions based on the same data.</p>	No

The impact of occupational rewards on risk taking among managers

Ceschi Andrea¹, Costantini Arianna^{1*}, Dickert Stephan², Sartori Riccardo¹

¹ Department of Human Sciences, Verona University, Italy.

² School of Business and Management, Queen Mary University of London, UK.

*Correspondence address:

Arianna Costantini

Department of Human Sciences, Verona University

Lungadige Porta Vittoria 17, 37129 Verona, Italy.

email: arianna.costantini@univr.it

Tel. +39 045 802 8140

Fax +39 045 802 8018

1
2 **The impact of occupational rewards on risk taking among managers**
3

4
5
6
7 Ceschi Andrea¹, Costantini Arianna^{1*}, Dickert Stephan², Sartori Riccardo¹
8
9

10
11 ¹ Department of Human Sciences, Verona University, Italy.
12

13
14 ² School of Business and Management, Queen Mary University of London, UK.
15
16

17
18
19 *Correspondence address:
20

21 Arianna Costantini
22

23
24 Department of Human Sciences, Verona University
25

26 Lungadige Porta Vittoria 17, 37129 Verona, Italy.
27

28
29 email: arianna.costantini@univr.it
30

31 Tel. +39 045 802 8140
32

33
34 Fax +39 045 802 8018
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Abstract

1
2 Managers often have to deal with the financial and ethical risks that companies face. Evidence
3
4 from risk management research suggests a negative relationship between people's age and risk
5
6 taking tendencies. Within such a framework, the present contribution examines how different
7
8 perceived occupational rewards may mediate or interact within the relationship between age
9
10 and risk taking of managers at the company-level. Our results show that perceived rewards in
11
12 terms of job security partially mediate the relationship between age and ethical risk taking,
13
14 while perceived rewards related to job promotion moderate the effect of age on financial risk
15
16 taking. We further discuss the role of different organizational strategies to preserve an
17
18 organization's health.
19
20
21
22
23
24
25
26

27 **Keywords:** occupational rewards; job promotion; job security; risk taking; managerial decision
28
29 making.
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1 Contemporary work environment and organizational assets are characterized by an ever-
2 increasing need to face organizational management and human resource challenges. In order
3 for risks and opportunities to be adequately evaluated and successfully managed, research
4 needs to address the mediating, and/or moderating factors behind risk attitudes in the
5 workplace. In the light of the organizational, economical and societal changes that occurred
6 after the financial crisis in 2008, the need for a deeper understanding of the psychological
7 aspects inherent in risk management within organizations represents a contemporary core-issue
8 (Sartori, Ceschi, & Costantini, 2015) in order to design effective reward policies.
9

10
11
12
13
14
15
16
17
18
19 In addition to wages and salaries, today's managerial work offers primarily
20 performance-dependent organizational rewards (OR; Kinnunen, Feldt, & Mäkikangas, 2008)
21 such as esteem rewards, job promotion and job security. Esteem rewards represent the extent
22 to which one perceives to be respected, supported and accepted by supervisors and colleagues,
23 while job promotion rewards refer to the perception of pay fairness as well as career
24 opportunities. In contrast, job security rewards include perceptions related to status consistency
25 and to stability (Siegrist, 1996). Such operationalization of rewards within the work
26 environment makes it possible to focus on how they relate to managerial decisions involving
27 risk taking.
28
29
30
31
32
33
34
35
36
37
38
39
40

41 Research has demonstrated the importance of considering risk tendencies related to age
42 differences (Rolison, Hanoch, Wood & Liu, 2013) as well as contextual factors (e.g., Dickert,
43 Västfjäll, Mauro, & Slovic, 2015; MacCrimmon & Wehrung, 1990), which should predict
44 behavior across different domains and situations (Schoemaker, 1990). In order to measure the
45 likelihood of engaging in risky activities, the Domain-Specific Risk-Taking (DOSPERT) scale
46 has been developed (Blais & Weber, 2006). This self-report questionnaire addresses the
47 domain-specific nature of risk across six broad domains (Weller, Ceschi, & Randolph, 2015),
48 of which the financial and the ethical domains are the most relevant with respect to the
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1 managerial role. Whereas financial risk taking constitutes a general part of managerial decision
2 making, a more contemporary and often politicized aspect of managerial responsibilities also
3 includes ethical risk taking.
4
5

6 **Occupational rewards as mediators and moderators**

7
8
9 To date, the relationship between risk taking and rewards among managers has been primarily
10 investigated by the financial and accounting literature (Li, Griffin, Yue, & Zhao, 2013). In
11 contrast, studies conducted within a psychological framework have focused more on the
12 investigation of how risk taking develops and changes across the lifetime. With these regards,
13 one of the key findings often reported is that older adults tend to be more risk avoidant (Rolison
14 et al., 2013). However, literature on how executives' risk behaviors change across the lifespan
15 reports evidence that risk aversion may follow a curvilinear trend (Pepper & Gore, 2014), with
16 executives aged 55-59 being more risk averse than both younger and older ones. Even if mixed,
17 these findings support the notion that age influences managerial risk behaviors.
18
19
20
21
22
23
24
25
26
27
28
29
30

31 Concerning the relationship between risk taking and rewards among executives, one of
32 the major contribution is the behavioral agency model of executive risk taking (Wiseman &
33 Gomez-Meija, 1998), which combines context-dependent elements and individual differences
34 to explain the relationship between executives' risk behaviors and rewards. In particular, this
35 model posits that agents are primarily loss averse and that their propensity to take risks depends
36 on perceptions of their individual compensation endowment. Building on this model,
37 individual perceptions of occupational rewards may play a major role in fostering different
38 behavioral outcomes among managers. However, research on the effectiveness of rewards is at
39 best mixed (Eisenberger & Shanock, 2003). This is especially the case concerning buffering
40 effects (Byron, & Khazanchi, 2012; de Jonge, Gevers, & Dollard, 2014), which may depend
41 on the nature of rewards and the context in which the rewards are being offered (Byron &
42 Khazanchi, 2012).
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

For example, an imbalance between (high) effort and (low) reward can cause poor outcomes (Siegrist, 1996). Studies conducted within this framework mainly focused on the job demands-resources relationship and reported mixed findings of OR moderating effects (de Jonge, Gevers, & Dollard, 2014; van Vegchel, de Jonge, & Landsbergis, 2005), which may be due to a mismatch between specific demands and resources of the context considered (de Jonge, & Dormann, 2006), as well as to the way in which rewards are operationalized (van Vegchel, de Jonge, Bakker, & Schaufeli, 2002). Moreover, the relevance of individual OR perceptions in fostering different outcomes among managers has produced evidence that managers' perception of low gains (i.e. low OR) matters for adverse outcomes (i.e. turnover intentions; Kinnunen, Feldt, and Mäkikangas, 2008).

Overall, research in economics and psychology supports the notion that agents' compensation influences managerial work behaviors, including risky ones, which depend both on context and on individual differences (Pepper & Gore, 2015). Accordingly, age differences may relate to different risk behaviors among managers, which in turn may be influenced by OR. However, we did not pose any specific hypothesis concerning the different strength of each moderator considered because of the lack of comparative research on which to ground them.

The effects of age on risk taking may depend on rewards, specifically we hypothesize that:

Hypothesis 1a: Perceived rewards in terms of esteem moderate the relationship between age and risk taking (both ethical and financial).

Hypothesis 1b: Perceived rewards in terms job promotion moderate the relationship between age and risk taking (both ethical and financial).

Hypothesis 1c: Perceived rewards in terms of job security moderate the relationship between age and risk taking (both ethical and financial).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

However, senior managers are more likely to be promoted and usually benefit from higher job security (Daveri & Maliranta, 2007; Mills, 1985), having at the same time lower chances to find a new job. Accordingly, risk taking may be perceived as potentially threatening because weighing potential losses (De Martino, Kumaran, Seymour, & Dolan, 2006) would be implied. That is, job promotion and job security can serve as mechanisms through which age relates to risk taking.

Hypothesis 2a: The relationship of age with ethical and financial risk taking is mediated by perceived rewards in terms of job promotion.

Hypothesis 2b: The relationship of age with ethical and financial risk taking is mediated by perceived rewards in terms of job security.

Method

Participants and procedure

Participation in the study was accomplished via a web-based survey sent to 113 managers from different companies operating throughout Italy in a large variety of different segments. Contacted participants were selected from a national panel of executives, from which we identified those with responsibilities for defining and executing their company's strategy, i.e. those stating in their profile to be operating board attendees. Of the total number of surveys mailed, 71 questionnaires were considered valid and usable for the study, for a response rate of 63%. Table 1 reports the educational level of participants, their company's size, tenure expressed in years and the number of employees directly supervised.

Since previous findings reported that managers have different risk attitudes when making decisions involving personal versus company money (MacCrimmon & Wehrung, 1986, 1990) and given that we aim to explore how OR influence risk behaviors at the company level, we adapted our risk-taking measures to reflect this level of analysis (see Appendix A).

Measures

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Occupational rewards. The perception of work environment rewards was measured through the administration of the Italian version (Magnavita, Garbarino, & Siegrist, 2012) of the reward scale from the short ERI-Questionnaire (Siegrist, Wege, Pühlhofer, & Wahrendorf, 2009). This questionnaire is composed of three subscales: esteem (measured by two items), job security (measured by two items), and job promotion (measured by three items). Participants indicated the degree to which they agreed with each item on a 4-point rating scale (1 = strongly disagree to 4 = strongly agree). Cronbach's alpha for the esteem scale was .60, .69 for the job security scale, and .61 for the job promotion scale.

19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
Ethical and financial risk taking. Domain-specific risk taking was measured with a subset of adapted items from the DOSPERT scale (Weber, Blais, & Betz, 2002), namely those pertaining to the ethical and the financial domain referred to the working context. Items used in this study are provided in Appendix A. The final version of the scale used in our study consisted of 11 items, of which five referred to the ethical domain and six to the financial one. Cronbach's alpha for these scales in this study was .89 for financial risk taking, and .92 for the ethical domain. Participants gave an indication of the likelihood that they would engage in the described activities or behaviors if they were to find themselves in a given situation. Each participant responded on a 5-point scale ranging from 1 ("Extremely unlikely") to 5 ("Extremely likely").

44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65

Descriptive statistics

Table 1 details the correlations among the study variables. Financial (FRT) and Ethical Risk Taking (ERT) were significantly positively correlated ($r = .67, p < .01$). Both risk taking measures were also significantly negatively correlated with age ($r = -.31, p < .01$; $r = -.37, p < .01$ for FRT and ERT, respectively) and with job security ($r = -.29, p < .05$; $r = -.35, p < .01$, for FRT and ERT, respectively).

INSERT TABLE 1 ABOUT HERE

Hypotheses testing

We tested the effects of age, job security, job promotion, and esteem as predictors for both financial and ethical risk taking (results are presented in Table 2). Only age and job security significantly predicted both types of risk taking, such that risk taking increased with lower age and lower job security.

INSERT TABLE 2 ABOUT HERE

To test for the possible moderating effects of job security, job promotion, and esteem we mean-centered these variables and used bootstrapping following the PROCESS procedure recommended by Hayes (2013). Results indicate that only job promotion significantly moderates the effects of age on financial risk taking, $B = .314$, $t(67) = 3.36$, $p = .001$.

INSERT FIGURE 1 ABOUT HERE

A simple slope analysis revealed that for lower levels of perceived job promotion, age has a stronger negative influence on FRT (-1 SD below the mean), $B = -.581$, $t(67) = -4.82$, $p < .001$, whereas this effect disappears for higher levels of job promotion (+1 SD above the mean), $B = .046$, $t(67) = .30$, $p = .763$. None of the other moderating effects was significant. Thus, younger managers report higher FRT when they do not perceive job promotion rewards.

To test whether the effects of age on risk taking are mediated by job security and job promotion, we used bootstrapping following the PROCESS procedure recommended by Hayes (2013). Results of these analyses revealed that age was significantly related to job security (B

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

= .35, $p < .01$), which in turn was significantly related to ERT ($B = -.25, p < .05$). That is, there was a significant indirect effect of age on ERT through job security ($B = -.09; 95\%CI [-.211, -.013]$). The unstandardized regression coefficient for the direct effect of age on ERT was $B = -.28, p < .05$, with a 95%CI [-.211, -.013]. The indirect effect through job promotion was not significant. For ERT, job security could account for roughly a quarter of the total effect, $P_M^1 = .24$.

For what concerns FRT, no statistically significant mediation effects of job security occurred, since the job security-FRT relationship was not significant ($B = -.21, p = .063; 95\%CI [-.430, .012]$). The unstandardized coefficient for the direct effect of age on FRT was $B = -.24, p < .05$, with a 95%CI [-.183, -.004]. The indirect effect of age on FRT through job security was significant ($B = -.074; 95\%CI [-.183, -.004]$).

Figure 2 illustrates the partial mediation effect of job security for ERT (all relationships are significant), and for FRT, reporting the unstandardized regression coefficients.

INSERT FIGURE 2 ABOUT HERE

Discussion

Results here reported show that the only significant interaction was found between age and job promotion on FRT but not on ERT. This indicates that rewards related to job promotions influence the effect of managers' age on risk taking for financial risks, but not ethical risks. Whereas age has virtually no influence on FRT when perceived job promotions are high, younger managers take on more financial risks than older managers when perceived job promotions are low.

¹ Percent of the total effect (c) accounted for by the indirect effect (ab).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Moreover, our results show that perceived rewards related to job security partially mediate the relationship between age and ERT. This suggests that the effect of age on managers' ethical risk taking can be explained by differences in perceived job security. As job security increases, managers take fewer risks, but only for what concerns ERT.

These findings confirm previous ones from the risk taking literature, validating the assumption that older adults are more commonly risk avoidant (Rolison, Hanoch, & Wood, 2012; Rolison et al., 2013; Turner & McClure, 2003), including older managers (Vroom & Pahl, 1971). Moreover, our findings provide support for the notion that agents' perceptions of rewards influence their risk behaviors (Pepper & Gore, 2015).

A closer look at the investigated rewards reveals a strong relationship between age and all the reward sub-dimensions considered except esteem. Our results also revealed an interaction between age and job promotion on FRT but not on ERT. Job promotion rewards include aspects related to both pay fairness and career opportunities. Thus, our results add evidence to previous literature on pay fairness (Shaw & Gupta, 2001) by showing that more senior managers take less company-level financial risks than junior managers when perceived pay fairness and career opportunities are low. Interestingly, this pattern is not shown for ERT, suggesting that the moderating effects of different rewards may be domain specific. In line with this reasoning, esteem rewards, which may be viewed as a more individual-based reward than other organizational-based perception of rewards like job promotion and job security, showed no statistically significant relationship with ERT or FRT.

Results also showed a significant partial mediating effect of job security between a manager's seniority and his/her company-level ERT. Job security, which represents the extent to which one perceives status consistency within one's work environment, is positively linked to age. Our findings further show that perceptions of job security decrease company-level ERT.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

It seems that the perception of being fairly rewarded in terms of job security produces a positive effect (i.e., a reduction) on the tendency to assume ethical risks.

Limitations

Overall, our study contributes to previous research aimed at understanding the impact of rewards on managerial behavior (Indjejikian, 1999; Rajgopal & Shevlin, 2002) and the ways in which specific work domains can affect the type of reward to be offered (Marsden & Belfield, 2010). It should be noted, however, that the conclusions we draw from the present research are based on a homogenous sample of Italian managers, which might affect the transcultural validity of our results. Moreover, future research should try to increase sample size in order to test the robustness of the regression results presented here (Harris, 2001; Kelley & Maxwell, 2003). Additionally, from a methodological point of view, the measures we used were all self-reported, which may lead to common method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), not controlled in our study. Finally, we point out that mediation analyses in cross-sectional data should be interpreted with caution and that causal inferences cannot be drawn without further investigation (Selig & Preacher, 2009; Maxwell & Cole, 2007). Our finding that age decreases managers' risk taking through its effects on perceived job security seems plausible given that older managers often have more experience and security in their jobs, but additional research should be done to verify the relationship between job security and risk taking.

Implications for managerial behavior

Besides the theoretical contribution to the research on rewards in managerial decision making, our results also suggest specific practical ways in which OR can be used to improve managerial behavior. The effects of (younger) age on managerial risk taking can be a liability for companies that wish to avoid financial losses and ethical scandals. A reward structure that provides high job promotion opportunities can help avoid that junior managers take

unnecessary financial risks. Also, higher job security can reduce risk taking specifically for junior managers. While our results also suggest that esteem does not directly relate to financial or ethical risk taking, and has no relation to managerial seniority, it does relate to job promotions. Therefore, it is possible that other measures that increase managers' esteem (e.g., company recognition) can also have positive effects on job promotions and thereby on FRT. In sum, interventions to foster effective corporate governance should include changing occupational reward structures from performance-based financial bonuses to better job promotion chances. While managerial decision making will probably always be accompanied by certain financial and ethical risks, work environments that ensure job security and opportunities of career advancement provide the conditions to deal better with risk taking, especially for what concerns younger managers.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

References

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Blais, A. R., & Weber, E. (2006). A domain-specific risk-taking (DOSPERT) scale for adult populations. *Judgment and Decision Making, 1*, 33-47. doi: 10.1002/bdm.414
- Byron, K., & Khazanchi, S. (2012). Rewards and Creative Performance: A Meta-Analytic Test of Theoretically Derived Hypotheses. *Psychological Bulletin, 138*, 809-830. <http://dx.doi.org/10.1037/a0027652>
- Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis. *Psychological Bulletin, 140*, 980-1008. doi: 10.1037/a0035661
- Daveri, F., & Maliranta, M. (2007). Age, seniority and labour costs: lessons from the Finnish IT revolution. *Economic Policy, 22*, 117-175. <http://dx.doi.org/10.1111/j.1468-0327.2007.00175.x>
- de Jonge, J., & Dormann, C. (2006). Stressors, Resources, and Strain at Work: A Longitudinal Test of the Triple-Match Principle. *Journal of Applied Psychology, 91*, 1359-1374. doi: 10.1037/0021-9010.91.5.1359
- de Jonge, J., Gevers, J., & Dollard, M. (2014). Managing employee creativity and health in nursing homes: The moderating role of matching job resources and matching occupational rewards. *International Journal of Stress Management, 21*, 361-383. <http://dx.doi.org/10.1037/a0038149>
- De Martino, B., Kumaran, O., Seymour, B., & Dolan, R.J. (2006). Frames, biases, and rational decision-making in the human brain. *Science, 313*, 684-687. doi: 10.1126/science.1128356
- Dickert, S., Västfjäll, D., Mauro, R. & Slovic, P. (2015). The Feeling of Risk: Implications for risk perception and communication. In H. Cho, T. Reimer, & K. A. T. McComas (Eds),

The SAGE Handbook of Risk Communication (pp. 41-54). Thousand Oaks, CA: Sage.

<http://dx.doi.org/10.4135/9781483387918.n7>

Eisenberger, R., & Shanock, L. (2003). Rewards, intrinsic motivation, and creativity: A case study of conceptual and methodological isolation. *Creativity Research Journal*, *15*, 121-130. doi: 10.1080/10400419.2003.9651404

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, *14*, 57-74. doi: 10.5465/AMR.1989.4279003

Garbers, Y., & Konradt, U. (2014). The effect of financial incentives on performance: A quantitative review of individual and team-based financial incentives. *Journal of Occupational and Organizational Psychology*, *87*, 102-137. doi: 10.1111/joop.12039

Harris, R. J. (2001). *A primer of multivariate statistics*. New York, NY: Psychology Press.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.

Indjejikian, R. J. (1999). Performance evaluation and compensation research: An agency perspective. *Accounting Horizons*, *13*, 147-157. <http://dx.doi.org/10.2308/acch.1999.13.2.147>

Jensen, M. C. (1998). *Foundations of organizational strategy*. Cambridge, MA: Harvard University Press. <http://dx.doi.org/10.2139/ssrn.244154>

Kelley, K., & Maxwell, S. E. (2003). Sample size for multiple regression: obtaining regression coefficients that are accurate, not simply significant. *Psychological Methods*, *8*, 305-321. doi: 10.1037/1082-989X.8.3.305

Kinnunen, U., Feldt, T., & Mäkikangas, A. (2008). Testing the effort-reward imbalance model among Finnish managers: The role of perceived organizational support. *Journal of Occupational Health Psychology*, *13*, 114-127. doi: 10.1037/1076-8998.13.2.114

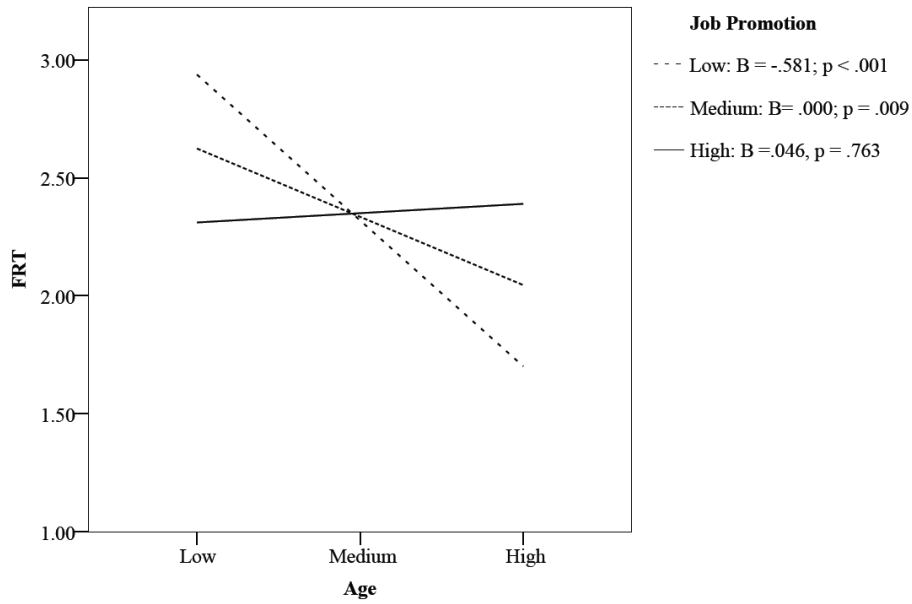
- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Li, K., Griffin, D., Yue, H., & Zhao, L. (2013). How does culture influence corporate risk-taking? *Journal of Corporate Finance*, 23, 1-22. <http://dx.doi.org/10.2139/ssrn.2021550>
- MacCrimmon, K. R., & Wehrung, D. A. (1986). *Taking risks: The management of uncertainty*. New York: Free Press.
- MacCrimmon, K. R., & Wehrung, D. A. (1990). Characteristics of risk taking executives. *Management Science*, 36, 422-435. doi: 10.1287/mnsc.36.4.422
- Magnavita, N., Garbarino, S., & Siegrist, J. (2012). The use of parsimonious questionnaires in occupational health surveillance: psychometric properties of the short Italian version of the effort/reward imbalance questionnaire. *The Scientific World Journal*, 2012. doi: 10.1100/2012/372852
- Marsden, D., & Belfield, R. (2010). Institutions and the management of human resources: incentive pay systems in France and Great Britain. *British Journal of Industrial Relations*, 48, 235-283. doi: 10.1111/j.1467-8543.2010.00793.x
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, 12, 23-44. doi: 10.1080/00273171.2011.606716
- Mills, D. Q. (1985). Seniority versus ability in promotion decisions. *Industrial & Labor Relations Review*, 38, 421-425. doi: 10.2307/2523768
- Pepper, A., & Gore, J. (2014). The economic psychology of incentives: An international study of top managers. *Journal of World Business*, 49, 350-361. doi: 10.1016/j.jwb.2013.07.002
- Pepper, A., & Gore, J. (2015). Behavioral agency theory: New foundations for theorizing about executive compensation. *Journal of Management*, 41, 1045-1068. doi: 10.1177/0149206312461054

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903. doi: 10.1037/0021-9010.88.5.879
- Rajgopal, S., & Shevlin, T. (2002). Empirical evidence on the relation between stock option compensation and risk taking. *Journal of Accounting and Economics*, 33, 145-171. <http://dx.doi.org/10.2139/ssrn.172689>
- Rolison, J. J., Hanoch, Y., & Wood, S. (2012). Risky decision making in younger and older adults: The role of learning. *Psychology and Aging*, 27, 129-140. doi: 10.1037/a0024689
- Rolison, J. J., Hanoch, Y., Wood, S., & Liu, P.-J. (2013). Risk-taking differences across the adult life span: a question of age and domain. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 69, 870-880. doi: 10.1093/geronb/gbt081
- Sartori, R., Ceschi, A., & Costantini, A. (2015). On decision processes in businesses, companies and organizations computed through a generative approach: The case of the agent-based modeling. *International Journal of Business Research*, 15, 25-38. <http://dx.doi.org/10.18374/IJBR-15-2.3>
- Schoemaker, P. J. (1990). Are risk-attitudes related across domains and response modes? *Management Science*, 36, 1451-1463. <http://dx.doi.org/10.1287/mnsc.36.12.1451>
- Selig, J.P., & Preacher, J.P. (2009). Mediation models for longitudinal data in developmental research. *Research in Human Development*, 6, 144-164. doi: 10.1080/15427600902911247
- Shaw, J. D., & Gupta, N. (2001). Pay fairness and employee outcomes: Exacerbation and attenuation effects of financial need. *Journal of Occupational and Organizational Psychology*, 74, 299-320. doi: 10.1348/096317901167370

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Shaw, J. D., & Gupta, N. (2015). Let the evidence speak again! Financial incentives are more effective than we thought. *Human Resource Management Journal*, *25*, 281-293. doi: 10.1111/1748-8583.12080
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, *1*, 27-43. doi: 10.1037//1076-8998.1.1.27
- Siegrist, J., Wege, N., Pühlhofer, F., & Wahrendorf, M. (2009). A short generic measure of work stress in the era of globalization: effort–reward imbalance. *International Archives of Occupational and Environmental Health*, *82*, 1005-1013. doi: 10.1007/s00420-008-0384-3
- Turner, C., & McClure, R. (2003). Age and gender differences in risk-taking behaviour as an explanation for high incidence of motor vehicle crashes as a driver in young males. *Injury Control and Safety Promotion*, *10*, 123-130. doi: 10.1076/icsp.10.3.123.14560
- Tversky, A., & Kahneman, D. (1992). Advances in Prospect Theory: Cumulative Representation of Uncertainty. *Journal of Risk and Uncertainty*, *5*, 297-323. doi: 10.1007/BF00122574
- van Vegchel, N., de Jonge, J., Bakker, A. B., & Schaufeli, W. B. (2002). Testing global and specific indicators of rewards in the Effort–Reward Imbalance Model: Does it make any difference? *European Journal of Work and Organizational Psychology*, *11*, 403–421. doi: 10.1080/13594320244000265
- van Vegchel, N., de Jonge, J., & Landsbergis, P. A. (2005). Occupational stress in (inter) action: the interplay between job demands and job resources. *Journal of Organizational Behavior*, *26*, 535-560. doi: 10.1002/job.327
- Vroom, V. H., & Pahl, B. (1971). Relationship between age and risk taking among managers. *Journal of Applied Psychology*, *55*, 399-405. <http://dx.doi.org/10.1037/h0031776>

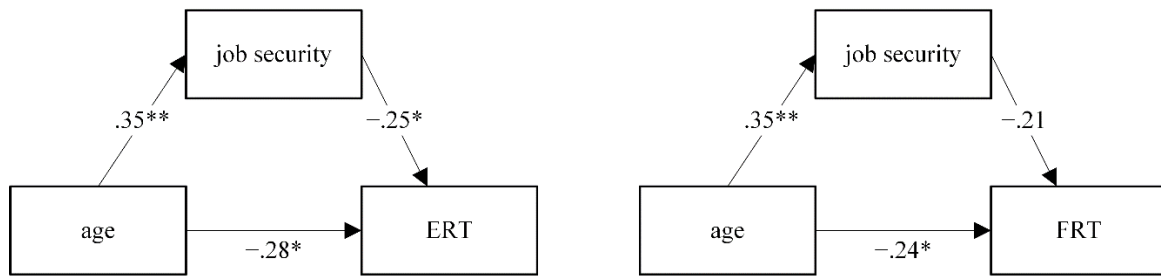
- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Weber, E. U., Blais, A.-R., & Betz, N. E. (2002). A domain-specific risk attitude scale: Measuring risk perceptions and risk behaviors. *Journal of Behavioral Decision Making*, *15*, 263–290. doi: 10.1002/bdm.414
- Weller, J., Ceschi, A., & Randolph, C. (2015). Decision-Making Competence Predicts Domain-Specific Risk Attitudes. *Frontiers in Psychology*, *6*, 540. Retrived from <http://dx.doi.org/10.3389/fpsyg.2015.00540>.
- Wiseman, R., & Gomez-Mejia, L. 1998. A behavioral agency model of managerial risk taking. *Academy of Management Review*, *23*, 133-153. doi: 10.2307/259103

Figure 1.
Graphical Representation of the Moderation Effect of Job Promotion on Age and Financial Risk Taking (FRT).



Note. B = Unstandardized regression coefficients.

Figure 2.
Graphical Representations of the Partial Mediation Effect of Job Security on the Relationship Between Age and Ethical (ERT) and Financial Risk Taking (FRT).



Note. Unstandardized regression coefficients are reported.

Table 1.

Means, Standard Deviations (SD), Internal Consistencies (on the Diagonal) and Correlations among Socio-Demographics and Study Variables.

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Age	38.70	10.93	–									
2. Education	4.80	2.06	–.08	–								
3. Company size	1.58	.50	–.09	–.21	–							
4. Length of service	12.94	11.51	.63**	–.32**	–.05	–						
5. Employees managed	3.14	1.48	.15	.12	–.07	.14	–					
6. Job security	2.73	.66	.35**	–.04	–.11	.21	–.10	(.69)				
7. Job promotion	2.57	.55	.04	–.03	–.10	.05	–.03	.21	(.61)			
8. Esteem	3.01	.55	–.04	.14	–.14	–.12	.21	.12	.30*	(.60)		
9. Financial risk taking	2.35	1.07	–.31**	–.04	.11	–.11	–.08	–.29*	–.10	.05	(.89)	
10. Ethical risk taking	1.98	1.01	–.37**	–.21	.14	–.13	–.19	–.35**	.02	–.04	.67**	(.92)

Note. $N = 71$. Education: 1 = Elementary school; 2 = Lower general secondary education; 3 = Higher general secondary education; 4 = Preparatory vocational education; 5 = Higher professional education; 6 = Bachelors' degree; 7 = Masters' degree; 8 = Ph.D. Company size: 1 = Micro (up to 10 employees, income less or equal to 2 million euro per year); 2 = Small (up to 50 employees, income less or equal to 10 million euro per year); 3 = Medium (up to 250 employees, income less or equal to 50 million euro per year); 4 = Big (more than 250 employees, income more to 50 million euro per year). Length of service: tenure expressed in years. Employees managed: 1 = up to 2 supervised co-workers; 2 = 3 to 5 supervised co-workers; 3 = 6 to 10 supervised co-workers; 4 = 11 to 25 supervised co-workers; 5 = more than 25 supervised co-workers.

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

Table 2.
Regression Analyses for Mediation and Moderation Effects of Age and Job Security, Job Promotion, and Esteem Predicting Financial and Ethical Risk Taking.

Model	Predictors	FRT		ERT	
		β	R^2	β	R^2
Model A	Age	-.31**		-.37**	
			.10**		.13**
Model B	Job Security	-.29*		-.35**	
			.09*		.12**
Model C	Job Promotion	-.01		.02	
			.01		.01
Model D	Esteem	.05		-.04	
			.01		.01
Model AB	Age	-.23*		-.28*	
	Job Security	-.21		-.25*	
			.13**		.19***
Model AC	Age	-.31**		-.37**	
	Job Promotion	-.09		.03	
			.10*		.14**
Model AD	Age	-.31**		-.37**	
	Esteem	.04		-.06	
			.10		.14**
Model A × B	Age	-.23		-.27*	
	Job Security	-.21		-.26*	
	Age × Job Security	-.01		-.04	
			.13*		.19**
Model A × C	Age	-.27*		-.35**	
	Job Promotion	-.04		.08	
	Age × Job Promotion	.31**		.18	
			.19**		.16**
Model A × D	Age	-.31**		-.37**	
	Esteem	.04		-.03	
	Age × Esteem	.04		.13	
			.10*		.15*

Note. $N = 71$. R^2 = Explanation rate; FRT = Financial risk taking; ERT = Ethical risk taking.

* $p < .05$. ** $p < .01$ *** $p < .001$

Appendix A.

For each of the following items, please indicate the likelihood that you would engage in each activity/behavior if you were to find yourself in the described situations.

1. Investing 10% of your company's annual profit in a new business venture. (F)
2. Investing 10% of your company's annual profit in a moderate growth fund. (F)
3. Reporting a little less in your company's financial statements. (E)
4. Falsifying someone else's signature due to unexpected obligations related to the organization's functioning. (E)
5. Copying and passing off somebody else's work as your own due to company's needs. (E)
6. Speculating by investing 5% of the annual company's profit in very speculative stock. (F)
7. Illegally downloading software useful for your company. (E)
8. Speculating by investing 5% of the annual company's profit in dependable stock. (F)
9. Connecting to an online service useful for your company illegally, without paying the monthly fee. (E)
10. Speculating by investing 10% of the company's annual profit in Treasury Bills. (F)
11. Speculating a part of the company's annual income. (F)

Note. Items referred to the ethical domain are marked with (E), items referred to the financial domain are marked with (F).

Conny Antoni
Head Guest Editor
Journal of Personnel Psychology

12/20/2016

Dear Dr. Antoni,

Re: Manuscript reference No. JPPSY-D-16-00029R1

Please find attached a revised version of our manuscript "*The impact of occupational rewards on risk taking among managers*", which we would like to resubmit for publication as a research note in the Journal of Personnel Psychology under the special issue "Reward Management – Linking Employee Motivation and Organizational Performance".

Your comments and those of the reviewers were highly insightful and enabled us to greatly improve the quality of our manuscript. In the following pages are our point-by-point responses to each of the comments of the reviewers as well as your own comments.

We hope that the revisions in the manuscript and our accompanying responses will be sufficient to make our manuscript suitable for publication in Journal of Personnel Psychology under the special issue "Reward Management – Linking Employee Motivation and Organizational Performance".

We shall look forward to hearing from you at your earliest convenience.

Yours sincerely,

Arianna Costantini

*Address: Università degli Studi di Verona, Dipartimento di Scienze Umane,
Lungadige Porta Vittoria 17 – 37129 Verona, Italy*

Ph: +39 045 802 8140

Fax: +39 045 802 8018

E-mail: arianna.costantini@apreso.org

Reviewers' comments

1. p. 7 "To test whether the effects of age on risk taking are mediated by job security and job promotion, we mean-centered and standardized these variables and used bootstrapping following the PROCESS procedure recommended by Hayes (2013)." centering of independent and moderating variables is recommended for moderation analysis the alternative is standardization. If you used Process the option provided is centering.

I would suggest you write instead of "To test for the possible moderating effects of job security, job promotion, and esteem we used the PROCESS macro (Hayes, 2013)."

To test for the possible moderating effects of job security, job promotion, and esteem, we mean-centered these variables and used bootstrapping following the PROCESS procedure recommended by Hayes (2013). To test whether the effects of age on risk taking are mediated by job security and job promotion, we used bootstrapping following the PROCESS procedure recommended by Hayes (2013).

Response: We followed your suggestion and re-wrote this part accordingly.

2. p. 8 Please also report the regression coefficients and bootstrap intervals for the indirect effects (ab) age via job security on ERT and FRT, although one could calculate it oneself.

Response: We provided the regression coefficients and bootstrap intervals for the indirect effects (ab) age via job security on ERT and FRT.

3. p. 8 job security and FRT $B = -.21$; $p = .063$ that is non significant if tested two-sided; $p < .1$; What about the bootstrap interval? one could argue significant as it is a directed hypothesis!

Response: We edited this part (and the following accordingly) dropping the result referred to job security and FRT, since it showed a statistical tendency only.

4. p. 8 what does Pm mean? Ratio of indirect to direct effect?

*Response: We added a note stating that the Percent Mediation indicates the percent of the total effect (c) accounted for by your indirect effect ($a*b$).*

5. p. 8 I would suggest to integrate the two indirect effects in Figure 2 and skip the moderation figure there (you could rather integrate in figure 1 - but I think this is not necessary given table 2)

Response: We integrated the two tested indirect effects and skipped the moderation figure.

6. p.8 Discussion: (consistent with figure 1) promotions are low (not lower) also p. 9 opportunities are low p. 11 last sentence what did you mean with ... improve their performance ...? Performance was not mentioned before.

Response: We edited the discussion in order to be consistent with the constructs analyzed in the contribution.

7. Figure 1 integrate the single slope regression coefficients and add a note regarding p and B

Response: We integrated the single slope regression coefficients.