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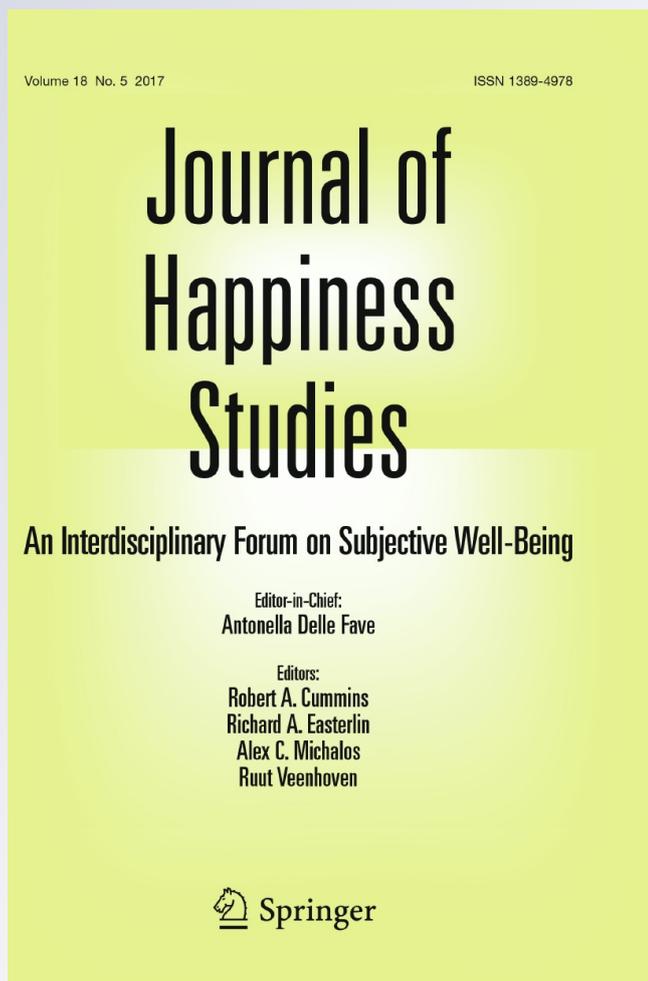
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Job Satisfaction and Innovative Performance in Young Spanish Employees: Testing New Patterns in the Happy-Productive Worker Thesis—A Discriminant Study

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Abstract We aimed to make a theoretical contribution to the happy-productive worker thesis by expanding the study to cases where this thesis does not fit. We hypothesized and corroborated the existence of four relations between job satisfaction and innovative performance: (a) unhappy-unproductive, (b) unhappy-productive, (c) happy-unproductive, and (d) happy-productive. We also aimed to contribute to the happy-productive worker thesis by studying some conditions that influence and differentiate among the four patterns. Hypotheses were tested in a sample of 513 young employees representative of Spain. Cluster analysis and discriminant analysis were performed. We identified the four patterns. Almost 15 % of the employees had a pattern largely ignored by previous studies (e.g., unhappy-productive). As hypothesized, to promote well-being and performance among young employees, it is necessary to fulfill the psychological contract, encourage initiative, and promote job self-efficacy. We also confirmed that over-qualification characterizes the unhappy-productive pattern, but we failed to confirm that high job self-efficacy characterizes the happy-productive pattern. The results show the relevance of personal and organizational factors in studying the well-being-performance link in young employees.

Keywords Job satisfaction · Innovative performance · Happy-productive worker thesis · Young employees · Discriminant analysis

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1 Introduction

Ceteris paribus, “happy” workers will perform better than “unhappy” workers (Wright et al. 2007) is the core idea of the happy-productive worker thesis, considered the most influential model to explain the relationship between well-being and performance (e.g., Staw 1986). This thesis embodies the perennial goal of the work and organizational psychology discipline, to understand how to promote well-being and performance.

However, after several decades of research, the relationship between well-being and job performance remains unsolved, with meta-analytic evidence reporting weak (around .17), moderate (around .30), and spurious associations (Bowling 2007; Iaffaldano and Muchinsky 1985; Judge et al. 2001). To move forward, scholars have revisited the happy-productive worker thesis, shedding light on its operationalization (Cropanzano and Wright 2001), studying possible moderators (Wright et al. 2007), and calibrating the time frame of the measures (Zelenski et al. 2008). Nonetheless, this type of literature may be somewhat monolithic because it ignores the existence of all but two types of relations between happiness and productivity. The happy-productive worker thesis portrays a positive view of the relationship between the constructs (Aguinis and Vandenberg 2014). This thesis considers that employees can either be unhappy and unproductive or happy and productive. By contrast, some studies identify anomalous patterns where happiness hinders creative performance (George and Zhou 2007) or unhappiness enhances it (Bledow et al. 2013). Together, these studies and findings suggest that well-being and performance might be related in many ways.

Surprisingly, there have been no integration attempts in this area of study. To bridge this gap in the literature, Peiró et al. (2014) proposed extending the happy-productive worker thesis to a taxonomy of four patterns: (a) unhappy-unproductive, (b) unhappy-productive, (c) happy-unproductive, and (d) happy-productive. This taxonomy needs empirical confirmation.

The key purpose of this study is to make a theoretical contribution to the happy-productive worker thesis by mean of two strategies. The first strategy involves addressing some pitfalls by considering research that has questioned the positive well-being-performance relationship. We argue that the four patterns can be identified if we equate well-being as job satisfaction and performance as innovation. The second strategy involves identifying circumstances that influence and differentiate each pattern, providing clues for future interventions. To do so, we pay attention to personal and organizational variables (Guest 2002; Pececi 2004).

Based on the social exchange, deprivation, and social cognitive theories, we expect that psychological contract fulfillment, personal initiative, and job self-efficacy will strongly differentiate the happy-productive from the happy-unproductive pattern. Regarding the *unbalanced* patterns, we expect employees with the happy-unproductive pattern to be distinguished by having high self-efficacy. We argue that self-efficacy promotes job satisfaction, but under certain conditions undermines performance. Finally, we predict that employees with the unhappy-productive pattern will be characterized by having high levels of over-qualification. We argue that over-qualification hinders job satisfaction, but not necessarily innovative performance. Sometimes these employees innovate, challenging the status quo, to improve their job situation. Figure 1 summarizes the four patterns and their composition.

We test our hypotheses in a sample of young employees. We still know little about well-being, health, and performance in this population (Akkermans et al. 2009). Creativity and

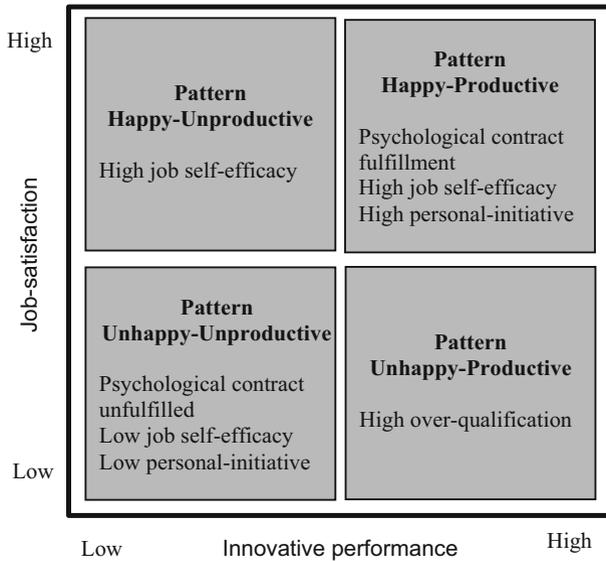


Fig. 1 Summary of the four patterns of relations in the extended happy-productive worker thesis

innovation are crucial for the survival of any organization (Anderson et al. 2014); however, millennials, young employees born between 1980 and 2000 (De Hauw and De Vos 2010), might be viewed as novice and inexperienced, i.e., agents with low seniority and credibility to innovate. There are approximately eighty-million millennials around the world, representing fifty-percent of the total workforce. Millennials value self-expression eight times more than Baby-boomers (born 1946–1964) (Sjofors and Tickell 2015). These employees may use innovation to stand out at work, but it may be not well accepted. In 10 years, they will represent the majority of the workforce. Therefore, organizations need to know how to manage these employees in order to sustain the economy's growth (International Labour Organization (ILO) 2013).

2 Job Satisfaction and Innovative Performance to Test the Extended Happy-Productive Worker Thesis

For decades, the relationship between well-being and performance was tested as job satisfaction (Judge et al. 2001), and more recently as psychological well-being (Wright et al. 2007) and affect (Hahn et al. 2012). Job satisfaction is a highly-studied conceptualization (e.g., Iaffaldano and Muchinsky 1985; Judge et al. 2001). Thus, in this study we conceptualize well-being as job satisfaction. Locke (1976) defines job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences” (p. 1304).

At the same time, theoretical frameworks and empirical evidence categorize job satisfaction as extrinsic (e.g. satisfaction with salary) and intrinsic (e.g. satisfaction with task variety) (Warr et al. 1979). Additionally, social elements of job satisfaction (e.g. satisfaction with feedback from the supervisor) are becoming relevant for well-being (Baptiste

2009), which is thought to emerge from a social context (Schulte and Vainio 2010; Tehrani et al. 2007). Assessing extrinsic, intrinsic, and social aspects of job satisfaction as indicators of well-being forms a “facet-specific” measure encompassing a bottom-up process; their aggregation reflects a “domain-specific” job-satisfaction index (Warr et al. 1979). Thus, in this study we consider the measurement of job satisfaction as a bottom-up process where different facets are treated as manifest variables contributing to the essence of job satisfaction (Judge and Kammeyer-Mueller 2012; Warr 2013). In sum, job satisfaction occurs when employees positively evaluate extrinsic and intrinsic features and social aspects of their jobs.

Performance embodies the other *half* of the happy-productive worker thesis. A wide variety of approaches have been used, such as work facilitation, emphasis on goals, team building (Wright et al. 2002), and customer satisfaction, financial productivity, personnel costs, or organizational efficiency (Taris and Schreurs 2009). To address this conceptual variety, we adopt a heuristic framework. Koopmans et al. (2011) implemented a systematic review and provided broad dimensions of performance. They identified adaptive performance as one broad dimension. Griffin et al. (2007) define it as “the extent to which an individual adapts to changes in a work system or work roles” (p. 329). Adaptive performance includes behaviors like solving problems creatively or learning new tasks, technologies and procedures (Koopmans et al. 2011). The study of creative and innovative performance and well-being has flourished in the last decade (e.g., George and Zhou 2002). Today, creativity and innovation are considered vital elements of performance (Anderson et al. 2014). For instance, 82 % of jobs in Europe require creativity (Eurofound 2012). We focus on one aspect of innovative performance, i.e., job content innovation. Job content innovation improves performance because it promotes task efficiency when employees develop new procedures and methods (Agut et al. 2009). This extra-role behavior also empowers employees, influencing their future work roles and career development (Feij et al. 1995).

In sum, our documentation describes alternative relationships between well-being and performance. Thus, we predict that job satisfaction and innovative performance are related in four ways. We present some mechanisms that might explain these four types of relationships.

First, we compare the unhappy-unproductive versus the happy-productive pattern. Wright and Cropanzano (2007) identify important differences, such as cognitive bias (tendency to recall more negative than positive aspects at work), social relations (unhappy people are more likely to use more argumentative interpersonal tactics, provoking the anger of co-workers), or limited access to resources (e.g., support from co-workers and supervisors). Second, research also offers a rationale for the existence of unbalanced patterns. In the happy-unproductive pattern, happiness (as positive affect) may improve performance to a certain extent (Baron et al. 2012). These authors argue that high levels of happiness sometimes activate processes that might interfere with specific aspects of cognition (e.g., reduced attention to negative information), perception (e.g., tendency to overrate ideas and opportunities), motivation (e.g., reduced task performance), and self-regulation (e.g., increased impulsivity). Finally, some mechanisms help to explain the unhappy-productive pattern. For example, Zhou and George (2001) report that high levels of job dissatisfaction may lead to creative performance. For these authors, employees who are unsatisfied with their jobs are unhappy with the status quo. Thus, these employees innovate because they want to improve their current job conditions. In doing so, they challenge the status quo by generating new and useful ideas, methods, and procedures (a behavior called voice). These processes are crucial to innovation at work. To innovate,

employees need an interplay among cognitive, perceptual, and social processes. In order to be creative at work, it is necessary to reject social schemas and a supportive work context (George and Zhou 2007). These underlying processes help to imagine the four patterns at work. As far as we know, there have been no research efforts to merge the study of these four types of relationships. We perform this integration by considering salient conceptualizations of well-being and performance at work.

Job satisfaction and innovative performance are salient conceptualizations of well-being and performance. At the same time, previous studies identify anomalous patterns when bringing these conceptualizations together. Therefore, the first specific objective of this study is to identify the four patterns of relationships between job satisfaction and innovative performance. We also aim to study personal and organizational conditions where the four patterns emerge.

3 Personal and Organizational Factors Affecting Job Satisfaction and Innovative Performance

3.1 Psychological Contract Fulfillment

Robinson and Rousseau (1994) define psychological contract as “the perceived mutual obligations that characterize the employee’s relationship with his/her employer” (p. 246). Content and delivery are fundamental aspects of the psychological contract (Turnley et al. 2003). On the one hand, the content of the psychological contract provides information about promises made by employers (e.g., providing job security). We use the HR architecture by Lepak and Snell (1999) as a framework to study the content of the psychological contract in young employees. The HR architecture is a theoretical framework based on transaction-cost economics, human capital theory, and the resource-based view of the firm. The HR architecture predicts that when organizations have human capital that is valuable but not unique (i.e., young employees), the employment relationship will be based on equitable rewards. Thus, we argue that equitable wages and rewards are central to fulfilling the psychological contract in young employees. On the other hand, the delivery of the psychological contract provides information about the extent to which promises (in general) have been fulfilled. Thus, the general perception of psychological contract fulfillment also becomes important.

Recent studies report a positive relationship between psychological contract fulfillment and innovative behaviors (Modaresi and Nourian 2013), and that psychological contract breaches decrease innovative behaviors (Ng et al. 2010). Drawing on the discrepancy theory (Locke 1969), we propose that the fulfillment of the psychological contract leads to job satisfaction when employees find no discrepancies between the wage and rewards they think they should receive and those they actually receive (Judge and Kammeyer-Mueller 2012). At the same time, based on the social exchange theory by Blau (1964), we argue that psychological contracts represent social exchanges where employees and organizations interact based on the assumption that each part will reciprocate (i.e. by delivering promises). If employees perceive reciprocity, they will be satisfied with their jobs and perform extra-role behaviors like innovation. However, a lack of reciprocity creates an imbalance in social exchanges, and employees will restore it by lowering job satisfaction (Bal et al. 2008) and innovative performance (Ng et al. 2010). In sum, based on the HR architecture, we argue that young employees might have a *symbiotic* employment relation

with their employers, and fair rewards and delivery of promises are keys to maintaining this symbiosis, which will have an impact on their job satisfaction and innovative performance.

3.2 Personal Initiative

Personal initiative is the essence of a proactive personality, i.e., the tendency to take initiative (Wanberg 2012). Career literature offers rich information about proactive behavior, understood as “protean career attitudes”. For instance, we know that proactivity brings benefits to well-being and performance. Frese and Fay (2001) argue that personal initiative may be linked to job satisfaction, at least in terms of pro-company behavior. Briscoe et al. (2012), in a study with a sample of 362 adult employees in the US, found that self-directed protean attitudes were correlated with three employee outcomes: performance, career success, and psychological well-being. Proactive behavior also empowers employees, showing career-enhancing strategies (Feij et al. 1995). Employees who display career-enhancing strategies increase their knowledge, engage in extra-assignments, invest more discretionary effort, and practice networking (Feij et al. 1995). These activities may be precursors of content innovation. For instance, employees who practice career-enhancing strategies might be viewed as skilled, credible and responsible, and providers of useful innovations (Feij et al. 1995).

We argue that personal initiative facilitates the creation of new methods and procedures at work, and young employees may be especially interested in being proactive as a way to advance in the social hierarchy. This increases their social relations and access to a variety of resources, which in turn may positively impact their job satisfaction and innovative performance.

3.3 Job Self-Efficacy

Bandura (1997) defines self-efficacy as “beliefs in one’s capacities to organize and execute the courses of action required to produce given attainments” (p. 3). Based on the social cognitive theory, we can explain the job self-efficacy-performance link. Efficacy beliefs might play a key role in human functioning, influencing decisions (selective effects), effort and persistence (motivational effects) through people’s goals and aspirations, outcome expectations, affective proclivities, and the perception of impediments and opportunities in their social environment (Bandura 1997). Thus, people with high levels of self-efficacy in a specific activity feel involved and connected with it, and they also feel that they are performing well (Lorente et al. 2014). In a longitudinal laboratory study, Salanova et al. (2012) found that the higher the efficacy beliefs, the more innovative the performance. In fact, meta-analytic evidence suggests that self-efficacy predicts both job satisfaction and performance (Judge and Bono 2001). In sum, based on social cognitive theory and empirical evidence, we argue that young employees with high self-efficacy will excel in making decisions, be more effortful and persistent and involved with their jobs, and innovate more at work.

Considering their simultaneous effects on job satisfaction and innovative performance, we hypothesize that:

H1 Psychological contract fulfillment, personal initiative, and job self-efficacy will differentiate between the unhappy-unproductive and happy-productive-patterns.

We also identified that job self-efficacy may be a contingent for the happy-unproductive pattern. Some studies report that job self-efficacy, counter-intuitively, decreases performance. Thus, high levels of job self-efficacy might produce cognitive bias, leading to overconfidence in one's abilities and less attentiveness and effort compared to people with lower-self efficacy, hindering performance (Bandura and Jourden 1991; Salanova et al. 2012; Vancouver et al. 2002). So far, these findings are limited to their effects on performance. However, research is still needed to investigate whether the negative effect of job self-efficacy on performance also applies to innovation. High job satisfaction, as a result of high job self-efficacy, will be negatively related to creativity because positive feelings might serve as a barometer of the social environment, interpreting the status quo as favorable, with no need to change aspects at work. Thus, we argue that, even though they are *happy*, employees with high job self-efficacy will be overconfident, less effortful, and reluctant to challenge the status quo by innovating at work. Therefore, we also hypothesize that:

H2 Employees with the happy-unproductive pattern will be characterized by having high self-efficacy.

3.4 Over-Qualification

Organizations are interested in acquiring human capital with high levels of knowledge, abilities, and skills because they represent a source of competitive advantage (Wright and McMahan 2011), but this might be a double-edged sword. When employees have qualities that exceed those required by their job descriptions, they are overqualified, which is a form of underemployment (Wu et al. 2015). Based on Maynard et al. (2006), we define over-qualification as employees' perceptions of having excess education, knowledge, abilities, and skills compared to the requirements of the job. Over-qualification is omnipresent across job markets, and even more so among young employees. Workers aged 15–29 are more overqualified than those aged 30 and above (ILO 2013). Likewise, in Europe only 55 % of the employees think their skills match their duties well (Eurofound 2014). Beyond its omnipresence, over-qualification also raises concerns about its negative effects on several job attitudes. For instance, it has been found to be harmful for organizational commitment, trust, and job satisfaction (Feldman et al. 2002; Wu et al. 2015).

However, underemployment is frequently associated with decreases in job satisfaction (Feldman et al. 2002). Maynard et al., (2006) found that over-qualification was consistently more negatively correlated with six facets of job satisfaction (e.g., with co-workers) than with five other types of underemployment (e.g., job-degree mismatch). Based on the relative deprivation theory, overqualified employees might perceive themselves as being deprived of utilizing their knowledge, abilities and skills, with this perception leading to diminished job satisfaction (Feldman et al. 2002; Wu et al. 2015).

In the case of job performance, over-qualification is also unanimously identified as a predictor of poor performance (Fine and Nevo 2008). Empirical evidence supports this negative effect (Bolino and Feldman 2000), but we may have prematurely accepted a simplistic conclusion about the effects of over-qualification on performance (Hu et al. 2015). Fine and Nevo (2008) conducted a study with 156 employees of a call center in the US. They found that over-qualification was negatively and significantly correlated with job satisfaction, at $-.44$. However, contrary to what they hypothesized, over-qualification was positively and significantly correlated with performance at $.38$. Contextual mechanisms have been used to explain why over-qualification turns into positive performance. Hu et al.

(2015) found that perception of peers' over-qualification acts as a moderator. Overqualified employees perform better when they work with coworkers who also feel overqualified because perceiving peers as overqualified enhances perceptions of the job's significance. Moreover, over-qualification itself might lead to innovative performance. These employees have higher knowledge, abilities, and skills, which might help them to "think out of the box".

In sum, in order to study job satisfaction and innovative performance in young employees, it is relevant to consider their over-qualification. Over-qualification might easily diminish their job satisfaction, but not necessarily their attempts to innovate. Thus, we also hypothesize that:

H3 Employees with the unhappy-productive pattern will be characterized by having high levels of over-qualification.

4 Method

4.1 Participants, Design, and Procedure

Data ($n = 513$) are from the Observatory on the transition of young employees to the labor market by the Valencian Institute of Economic Research (IVIE in Spanish), and they correspond to the sixth data wave in 2011. The survey is designed to facilitate the socioeconomic and psychosocial analysis of the transition of young employees to the labor market. With slightly more females (53.6 %), the average age was 25 years [standard deviation (SD) = 3.4]. Most of the participants worked in the private sector (85.2 %). Most worked in organizations with a broad range of economic activities, generally in various private services (25.2 %), hotels and restaurants (14.2 %), commerce (12.5 %), and education (9.2 %), among others. The sample represents all the regions in Spain.

Participant selection was based on target sampling; participants between 16 and 30 years old who have been looking for or found a job in the past 5 years were included. Then, participants were selected to contact by telephone, using the random route method. After two attempted contacts, non-respondents were replaced with a randomly chosen substitute of the same age and gender. Considering the characteristics of this study, we considered only those participants who were currently employed.

Employees contacted by telephone were told the purpose of the study and assured that all the data would be treated confidentially at all times. Those who gave their consent to take part were interviewed at their homes through a structured face-to-face procedure administered by professional interviewers trained in the content of the survey.

4.2 Measures

4.2.1 Control Variables

We controlled gender (0 = male, 1 = female), age, type of contract (0 = temporal, 1 = permanent), and type of sector of the organization (0 = public, 1 = private). We considered that these variables could be significant contributors to the variance in our outcome variables (Hahn et al. 2012; Wright and Cropanzano 2000).

4.2.2 Job Satisfaction

Job satisfaction was assessed as the composite of extrinsic, intrinsic, and social job satisfaction, based on Warr et al., (1979) and García-Montalvo et al. (2003). This measure can be applied to a wide range of jobs. It evaluates job satisfaction, drawing attention to key work facets and grouping them in the intrinsic, extrinsic, and social dimensions (García-Montalvo et al. 2003). Extrinsic job satisfaction refers to satisfaction with global aspects of the job, such as schedule, salary, and job security. This dimension was measured with seven items. A sample item is: "Indicate your level of satisfaction with your schedule". Intrinsic job satisfaction refers to satisfaction with inner characteristics of the job, such as opportunities to learn, the variety of tasks to be performed, or the level of autonomy. This dimension was measured with seven items. A sample item is: "Indicate your level of satisfaction with the variety of tasks to perform". Finally, social job satisfaction refers to satisfaction with the social meaning of the job and with interactions and social relations, for instance, with clients, suppliers, and other stakeholders. This dimension was measured with five items. A sample item is: "Indicate your level of satisfaction with your co-workers". All items were scored on a 5-point Likert scale (1 = not at all, 5 = very much). The three subscales had good reliability, $\alpha = .85$ (extrinsic job satisfaction), $\alpha = .91$ (intrinsic job satisfaction), $\alpha = .80$ (social job satisfaction), and $\alpha = .94$ (for the composite of the three subscales).

4.2.3 Innovative Performance

Innovative performance was measured as job content innovation, defined as the "increases in decision latitude, development and/or communication of new work procedures, and behavioral methods used by people to produce their own work role development" (Feij et al. 1995, p. 233). The scale consisted of three items from the questionnaire on innovative role orientation (behaviors that alter procedures of the role, the role itself, or even both), developed by Jones (1986), adapted by Feij et al. (1995), and validated in a Spanish sample (Martín et al. 1999). A sample item is: "I looked for better ways of doing things at my work". Participants responded using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). This scale had good reliability, $\alpha = .83$.

4.2.4 Psychological Contract Fulfillment

Psychological contract was assessed with three items. Items one and two measured the content, and the third item evaluated the delivery of the psychological contract fulfillment. Thus, item one measured equitable monetary rewards preceded by the instruction: "Indicate which sentence best describes your situation at work". Participants responded on a 5-point Likert scale (1 = what I am paid is much less than what I do, 5 = what I am paid is much more than what I do). Item two measured equitable monetary and non-monetary rewards preceded by the statement: "Considering both monetary and non-monetary compensations (e.g., *opportunities to learn*), what I receive for my work is:" Participants responded using a 5-point Likert scale (1 = much better than what I expected when I started working here, 5 = much worse than what I expected when I started working here). This item was reverse-scored, so that high scores indicate a perception of equitable monetary and non-monetary rewards. Item three measured equitable fulfillment of commitments by the organization, preceded by the question: "To what extent is the organization

fulfilling the commitments made when you were hired". Participants responded on a 5-point Likert scale (1 = very little, 5 = very much). This reliability was $\alpha = .67$.

4.2.5 Personal Initiative

Personal initiative was measured with three items. The items came from the self-reported initiative questionnaire, developed and validated by Frese et al. (1997). They define personal initiative as "a behaviour syndrome resulting in an individual's taking an active and self-starting approach to work and going beyond what is formally required in a given job" (Frese et al. 1997, p. 140). This scale has been used in several studies focusing on young employees in Spain (Agut et al. 2009; Peiro et al. 2002). A sample item is: "If something needs to be done, I immediately take the initiative, even though others do nothing". Participants responded using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). This scale had good reliability, $\alpha = .80$.

4.2.6 Job Self-Efficacy

Job self-efficacy was measured as employees' beliefs about their own capacity to organize and put into practice the actions they need to perform to reach expected outcomes (Bandura 1997). The items have been taken from the professional efficacy subscale of the Maslach Burnout Inventory-General Survey (MBI-GS) (Schaufeli et al. 1996), which especially focuses on efficacy expectations (Bakker et al. 2002). We used the Spanish version (Salanova et al. 2000), and three items were selected, considering those that have higher factor loadings and more reliably represent this construct. This scale has shown good psychometric properties (García-Montalvo et al. 2003; García-Montalvo and Peiró 2009). A sample item is: "I am capable of doing my work well". Participants responded using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). This scale had good reliability, $\alpha = .84$.

4.2.7 Over-Qualification

Over-qualification is typically measured by considering the employee's perception of mismatch (Maynard et al. 2006). Subjective perceptions are fruitful in predicting

Table 1 Correlations and descriptive statistics of the job satisfaction-innovative performance pattern indicators

	1	2	3	4	5	6
1. Over-qualification	–	–.05	.11**	.01	–.23**	–.01*
2. Psychological contract F.		(.67)	.43	17**	.35**	.12**
3. Personal initiative			(.80)	39**	.31**	.43*
4. Job self-efficacy				(.84)	.37**	.46**
5. Job satisfaction					(.94)	.41**
6. Innovative performance						(.83)
<i>M</i>	2.4	3.0	3.8	4.2	3.6	3.7
<i>SD</i>	3.6	0.6	0.7	0.6	0.7	0.8

Internal alpha estimates are in parenthesis * $p = .05$; ** $p = .01$. (two-tailed)

individual outcomes (e.g., job satisfaction, and performance, Lauver and Kristof-Brown 2001; Maynard et al. 2006), and preferred over objective measures because employees are likely to feel and act based on their perceptions (Maynard et al. 2006; Zalesny 1990). Accordingly, over-qualification mismatch was measured with the item: "If an individual had to perform your job, what level of education would you recommend that he or she have?" Participants responded using a 12-point scale [(1 = without studies (ISED level 1) to Doctorate (ISED level 12)]. We also considered the individual level of education. Both indicators were transformed into years of education (García-Montalvo et al. 2006). To determine whether an employee was overqualified, the recommended level of education was subtracted from the level of education achieved. Negative and zero scores were considered indicators of education match and under-qualification, and positive scores were considered indicators of over-qualification (Agut et al. 2009). In our study, 53 % of the participants were overqualified (ranging from 1 to 17 years).

Table 1 shows the means, standard deviations, bivariate correlations, and descriptive statistics for all listed variables.

4.3 Data Analyses

4.3.1 Preliminary Analyses

Missing data are an endemic feature of organizational research, making its treatment necessary (Fichman and Cummings 2003). A crucial decision is whether missing data represent more than 5 %. In our study, the percentage of missing data was small (2 %). As in other studies (Taris and Schreurs 2009), listwise deletion of missing data was performed; thus, this study includes 65.51 % of the initial number of participants ($N = 783$). A follow up analysis indicates that participants included in this study were similar to those excluded, in terms of job satisfaction, innovative performance, psychological contract fulfillment, personal initiative, job self-efficacy, and over-qualification. Finally, before performing the cluster analysis with the dependent variables of job satisfaction and innovative performance, scores were standardized to *Z-scores* ($M = 0$, $SD = 1$) to balance the contribution of each variable within this analysis (Hair and Black 2000).

4.3.2 Cluster Analysis

To identify the four patterns of relationships, the 513 employees were clustered based on their individual levels of job satisfaction and innovative performance, using a two-step procedure as recommended by Hair and Black (2000). Euclidean distance measured the distance between job satisfaction and innovative performance in workers. The clustering criterion was Schwarz's Bayesian Criterion (BIC). The two-step procedure (combining hierarchical and non-hierarchical methods) efficiently formed four clusters.

4.3.3 Discriminant Analysis

To test hypotheses 1–3, we employed discriminant analysis to test the unique differentiating power of psychological contract fulfillment, personal initiative, job self-efficacy, and over-qualification across the four patterns. After a first attempt, for purposes of statistical refinement, we conducted a stepwise solution to remove variables that did not make a unique contribution to the predictive and discriminatory function at a probability of .01 or

lower. The stepwise criterion was minimization of the Wilks' lambda. A second stepwise discriminant analysis was performed considering only the unhappy-productive and happy-unproductive patterns because the second most significant differences were found between them. Discriminant analysis has been shown to be a useful technique to differentiate patterns of relations, for instance, among well-being variables (e.g., Keyes et al. 2002). Various authors recommend combining discriminant and cluster analysis to refine the cluster solution and add validity to it, which occurs when other variables, based on theory, are related to the clusters (Henry et al. 2005; McIntyre and Blashfield 1980).

5 Results

5.1 Cluster Analysis

First, by means of two-step cluster analysis, a 4-cluster solution was identified. Figure 2 depicts the centroids of each cluster, expressed in standardized scores that are easy to interpret, and as they eliminate means of raw score of arbitrary units of scaling (Nunnally and Bernstein 1994). Cluster names reflect the relations, considering the highest and lowest scores on the variables (job satisfaction and innovative performance).

Cluster 1, unhappy-unproductive, comprised 17.3 % of the sample (89 employees). Cluster 2, unhappy-productive, comprised 9.4 % of the sample (48 employees). Cluster 3, happy-unproductive, comprised 5.3 % of the sample (27 employees). Cluster 4, happy-productive, comprised 68 % of the sample (349 employees). These results reflect the differential patterns of relations between job satisfaction and innovative performance. Therefore, we accomplished our first specific research aim, which was to identify these four patterns of relationships, considering happiness as job satisfaction and performance as innovation.

5.2 Discriminant Analysis

Second, the discriminant analysis generated three functions that significantly explained variability between groups. The stepwise solution identified three control variables (age,

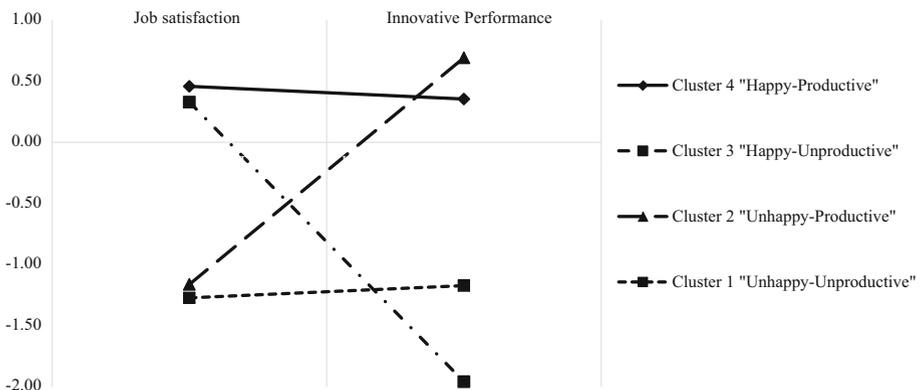


Fig. 2 Four-cluster solution, cluster means. Standardized

Table 2 Discriminant analysis of the four patterns of relations between job satisfaction and innovative performance with psychological contract, personal initiative, job self-efficacy, and over-qualification as discriminant variables

Variable/discriminant function statistics	Means (standard deviations) of well-being-performance combinations				Standardized discriminant function coefficients ^a		
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Function 1	Function 2	Function 3
	Unhappy/Unproductive (n = 83)	Unhappy/Productive (n = 42)	Happy/Unproductive (n = 25)	Happy/Productive (n = 317)			
Covariate							
Age	24.78 (3.19)	24.86 (3.56)	24.64 (4.19)	25.13 (3.45)	.14	-.03	.15
Gender ^{b,c}	0.54 (0.50)	0.67 (0.48)	0.36 (0.49)	0.55 (0.50)	.02	.13	.09
Sector ^{d,e}	0.98 (0.15)	0.95 (0.22)	0.52 (0.51)	0.84 (0.37)	-.19 (-.19)	.50 (.53)	.79 (-.81)
Type of contract ^{e,c}	0.41 (0.49)	0.60 (0.50)	0.52 (0.51)	0.62 (0.49)	.23	.15	-.37
Discriminant variables							
Psychological Contract F:	2.82 (0.65)	2.55 (0.72)	3.11 (0.53)	3.19 (0.61)	.52 (.58)	-.45 (-.39)	.45 (.39)
Job self-efficacy	3.86 (0.79)	4.33 (0.68)	3.88 (0.74)	4.37 (0.60)	.29 (.29)	.32 (.36)	-.13 (-.21)
Personal initiative	3.42 (0.80)	4.00 (0.78)	3.28 (0.64)	4.04 (0.69)	.52 (.50)	.52 (.50)	-.07 (-.12)
Over-qualification	3.13 (3.18)	4.74 (5.35)	2.36 (3.52)	1.99 (3.39)	-.28 (-.34)	.35 (.32)	-.37 (-.40)
Significance of function					.000	.000	.001
Canonical correlation					.46	.32	.22
Explained variance (%)					58.2	30.9	10.9
Centroids of:							
Cluster 1					-.93	-.10	.26
Cluster 2					-.55	.89	-.42
Cluster 3					-.42	-1.16	-.63

Table 2 continued

Variable/discriminant function statistics	Means (standard deviations) of well-being-performance combinations				Standardized discriminant function coefficients ^a		
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Function 1	Function 2	Function 3
	Unhappy/Unproductive (<i>n</i> = 83)	Unhappy/Productive (<i>n</i> = 42)	Happy/Unproductive (<i>n</i> = 25)	Happy/Productive (<i>n</i> = 317)			
Cluster 4					.35	.00	.03

N = 467 after listwise deletion of cases with missing data

^a In parentheses are the coefficients of a stepwise solution that included only variables entered at the .01 significance level (coefficients higher than .30 are in boldface). The stepwise criterion was minimization of the overall Wilks' lambda

^b Coded 0 = male, 1 = female

^c The group mean of the dichotomous/dummy variables indicates the proportion of the higher coded category

^d Coded 0 = public, 1 = private

^e Coded 0 = temporal, 1 = permanent

gender, and type of contract) as non-significant and, therefore, dropped them. Thus, these variables did not offer unique differentiating power at the .01 probability level or lower. As in Keyes et al., (2002), we inspected the mean scores of the groups for each discriminant function (centroids), which allowed us to determine that the first function maximally separates the unhappy-unproductive pattern from the happy-productive pattern (Clusters 1 and 4). The second function maximally separates the unhappy-productive pattern from the happy-unproductive pattern (Clusters 2 and 3). Finally, the third function maximally separates the unhappy-unproductive pattern from the happy-unproductive pattern (Clusters 1 and 3).

In a more detailed way, the results show that the first function explained 58 % of the variance, highly loaded by psychological contract fulfillment, followed by personal initiative, and to a lesser extent, over-qualification and job self-efficacy. Thus, employees with the unhappy-unproductive pattern (Cluster 1) have systematically lower means on psychological contract fulfillment, personal initiative and job self-efficacy, and higher means on over-qualification, compared to the happy-productive pattern (Cluster 4). As

Table 3 Discriminant Analysis of the unhappy-unproductive and happy-unproductive patterns with psychological contract, personal initiative, job self-efficacy, and over-qualification as discriminant variables

Variable/discriminant function statistics	Means (standard deviations) of well-being-performance combinations		
	Cluster 2	Cluster 3	Standardized discriminant function coefficients ^a Function 1
	Unhappy/ Productive (<i>n</i> = 42)	Happy/ Unproductive (<i>n</i> = 25)	
Age	24.86 (3.56)	24.64 (4.19)	-.03
Gender ^{b c}	0.67 (0.48)	0.36 (0.49)	.25
Sector ^{d,c}	0.95 (0.22)	0.52 (0.51)	.69 (1.0)
Type of contract ^{e,c}	0.60 (0.50)	0.52 (0.51)	.31
Independent variables			
Psychological contract F.	2.55 (0.72)	3.11 (0.53)	-.41
Job self-efficacy	4.33 (0.68)	3.88 (0.74)	.39 (.75)
Initiative	4.00 (0.78)	3.28 (0.64)	.41
Over-qualification	4.74 (5.35)	2.36 (3.52)	.36
Significance of function			.000
Canonical correlation			.74
Centroids of:			
Cluster 2			.84
Cluster 3			-1.41

N = 467 after listwise deletion of cases with missing data

^a In parentheses are the coefficients of a stepwise solution that included only variables entered at the .01 significance level (coefficients higher than .30 are in boldface). The stepwise criterion was minimization of the overall Wilks' lambda

^b Coded 0 = male, 1 = female

^c The group mean of the dichotomous/dummy variables indicates the proportion of the higher coded category

^d Coded 0 = public, 1 = private

^e Coded 0 = temporal, 1 = permanent

Table 2 shows, the second function explained 30 % of the variance, highly loaded by personal initiative, followed by psychological contract fulfillment, job self-efficacy, and over-qualification. Thus, employees with the unhappy-productive pattern (Cluster 2) have significantly higher means on over-qualification, and lower means on personal initiative, psychological contract fulfillment, and job self-efficacy, compared to the happy-unproductive pattern (Cluster 3). The third function explains 10 % of the variance and was highly loaded by over-qualification and psychological contract fulfillment. In this case, the means of these three variables differentiated between the unhappy-unproductive and the happy-unproductive patterns (Clusters 1 and 3). Thus, employees with the unhappy-unproductive pattern (Cluster 1), again, systematically have significantly higher means on over-qualification and lower means on psychological contract fulfillment, compared to employees with the happy-unproductive pattern (Cluster 3).

Because the first discriminant function was so powerful, we decided to perform another stepwise discriminant analysis, but only with those patterns that were maximally separated in function 2. Table 3 shows that the results of this analysis are more concise than the previous ones, indicating that employees with the unhappy-productive pattern are mostly differentiated from employees with the happy-unproductive pattern by having more job self-efficacy and by working in the public sector.

Together, the results of the discriminant analyses corroborate that psychological contract fulfillment, personal initiative, job self-efficacy, and over-qualification help to differentiate among the four patterns of relations between job satisfaction and innovative performance, as documented in detail above. When comparing these variables, psychological contract fulfillment and personal initiative were better at differentiating employees with the unhappy-unproductive from those with the happy-productive pattern. Job self-efficacy was better at differentiating employees with the unhappy-productive from those with the happy-unproductive pattern.

Considering each hypothesis, we fully confirmed hypothesis 1 because psychological contract fulfillment, personal initiative, and job self-efficacy strongly differentiated the *unhappy-unproductive* from the *happy-productive* pattern. We failed to confirm hypothesis 2 because employees with the *happy-unproductive* pattern were characterized by having low job self-efficacy (for instance, in comparison with their unhappy-productive counterparts). Finally, we fully confirmed hypothesis 3; thus, employees with the *unhappy-productive* pattern perceived themselves as deprived (overqualified) of using their knowledge, abilities, and skills, a situation that encourages them to challenge the status quo by proposing new and useful ideas, methods, and procedures.

6 Discussion

The main purpose of this study is to make a theoretical contribution by extending the happy-productive worker thesis. To do so, we tested an expanded theoretical taxonomy of relations between well-being and performance. To accomplish our first specific research aim, we identified the four patterns of relationships by considering well-being as job satisfaction and performance as job content innovation. We also examined some personal and organizational circumstances that help to categorize young employees in each of these patterns. All these efforts attempted to reduce some of the previous disdain toward the study of anomalous patterns. Moreover, our study focused on the youth population in a context of economic crisis. In this context, Spanish young people show one of the highest

unemployment rates in the world (52.2 % Eurostat 2015), almost three times higher than their adult counterparts (ILO 2015). At the same time, this research focuses on over-qualification, another pervasive organizational phenomenon across job markets, present in countries like America, Australia, UK, India or Spain (Maynard et al. 2006; Wu et al. 2015). Thus, the results have significant relevance in dealing with youth unemployment and underemployment, two important societal problems today (OECD 2013; Peiró et al. 2015).

6.1 Summary of Results

Results showed that hypothesis 1 is fully confirmed. Psychological contract fulfillment, personal initiative, and job self-efficacy strongly differentiate between the unhappy-unproductive and happy-productive-patterns. These results corroborate the relevance of equitable wages and rewards in young employees' outcomes. A recent study found that millennials have not lowered their financial reward expectations due to the economic recession that began in 2008 (De Hauw and De Vos 2010). These results also corroborate the importance of personal initiative in innovative-performance. They suggest that employees with personal initiative change their job conditions without changing jobs (Frese et al. 2007). In our case, employees with high personal initiative also perceived more psychological contract fulfillment and were less significantly overqualified. Thus, employees propose new and useful ideas in a problematic situation, but also when there is a favorable status quo. These results extend the studies by George and Zhou (2007, 2002).

We failed to confirm hypothesis 2. Employees with the happy-unproductive pattern were not differentiated by having higher self-efficacy. Instead, they were characterized by having low levels of job self-efficacy. These results might be more accurately explained taking into account the type of sector and personal initiative, the most significant variables characterizing this pattern. Happy and unproductive employees worked overall in the public sector and reported the lowest significant level of personal initiative. Pressure to innovate in organizations in the public sector may be lower and more lenient due to its configuration and context, as this sector is not as dependent on competitiveness across markets as the private sector is. This *relaxed* attitude toward innovating might be transferred to employees and, in turn, inhibit their personal initiative. Our results also suggest that public organizations are good at fulfilling their promises to employees. This is translated into improved job satisfaction. All these factors resulted in a happy-unproductive pattern mostly populated by employees in the public sector.

We based our hypothesis 3 on the argument that over-qualification characterizes the unhappy-productive pattern. Thus, these employees perceive themselves as unable to put their knowledge, abilities, and skills into practice, which hinders their job satisfaction. This situation might motivate them to challenge the status quo by being innovative at work. Our results support this hypothesis. These results are aligned with previous studies (e.g., Fine and Nevo 2008; Hu et al. 2015). Thus, over-qualification hinders job satisfaction, but not necessarily performance, especially in an economic crisis context. These results also shed light on the circumstances where unsatisfied employees innovate at work. Considering the predictors of this pattern together (high levels of over-qualification, job self-efficacy and personal initiative, along with an unfulfilled psychological contract), they show that job dissatisfaction coexists with innovation. These results coincide with and extend previous research suggesting that personal and organizational factors take place at the same time (Zhou and George 2001). The interplay among these factors is beyond the limits of this

paper. However, some researchers have already started to investigate the link, for instance, between person-job fit, job self-efficacy, and job satisfaction (Peng and Mao 2015).

In summary, we have confirmed the existence of four patterns of relations between happiness and performance. We also identified some personal and contextual characteristics that significantly discriminate between those patterns. *Optimum esse* (i.e., all aspects being optimal), the probability of being in the happy-productive pattern increases with high psychological contract fulfillment, high personal initiative, high job self-efficacy, and low over-qualification. Our results are in line with various theories that inspired our hypotheses, such as relative deprivation, discrepancy, social exchange, and social cognitive theory.

6.2 Some Relevant Questions for Theory Development

The results of our study help to advance the understanding of the relationship between well-being and performance at work in young employees. However, the complexity of the conceptualization of well-being creates a rich avenue for theory development. Traditionally, the happy-productive model has been tested using a subjective judgmental evaluation of well-being operationalized as job satisfaction. This strategy has been useful and productive in our study in understanding new relevant phenomena based on an extension of the model. However several aspects require further attention. During the past two decades, profound developments have taken place in the conceptualization and measurement of well-being, with important theoretical significance. In psychology, well-being is considered as a polyhedral concept (Ryan and Deci 2001), encompassing hedonic (e.g. life satisfaction and affect, referred to as subjective well-being, Diener 1984), and eudaimonic components (e.g., purpose and personal growth, referred to as psychological well-being, Ryff 1989). Recently, researchers (e.g., Dolan and Metcalfe 2012) and public organizations recommended measuring well-being by considering both components (see the National Research Council 2013; OECD 2013). This proposal raises new concerns because it is possible that a number of pleasurable activities (hedonic well-being) may not be very useful in increasing purposeful activities required at work (eudaimonic well-being). Within this line of reasoning, when we identify a group of young employees in the *unhappy-productive* pattern in our study, it does not necessarily mean that they lack well-being. It just means that they have low levels of hedonic well-being (job satisfaction), but they may find purpose in their work, which, along with high performance, may set up the eudaimonic (happy)-productive pattern. Thus, new studies should take into consideration a more encompassing approach to well-being at work that identifies the complex relationships between both the hedonic (Schulte and Vainio 2010) and eudaimonic (Culbertson et al. 2010) components. The four-patterned-taxonomy should be tested by considering both components in order to better understand the relationships between well-being and performance. We would expect this encompassing approach to provide more conclusive results to further disentangle and understand the four quadrants of the happy-productive model, and especially the differences between the unhappy-productive and happy-unproductive patterns.

Another advance in the conceptualization of well-being, related to its time frame features, also has important implications for future research. Whereas judgmental measures of well-being focus on long-term experiences, other approaches have paid attention to more specific and short-term experiences (e.g., the daily reconstruction method—DRM—or the experiential and diary studies, see National Research Council 2013; OECD 2013; White and Dolan 2009). With this approach, some limitations of the knowledge obtained from the judgmental conceptualization of well-being may be prevented. A person may or may not

be satisfied with his/her job, depending on the specific circumstance or episode that is recalled in making this appraisal. Kahneman et al. (2004) addressed these and other limitations by proposing the DRM. They asked people to think about specific episodes and details about them from the previous day. Moreover, questions about satisfaction and affect were differentiated. With regard to work-related well-being, Kahneman et al. (2004) found that long-term circumstances at work (e.g., excellent benefits) affected job satisfaction more than affect, but short-term circumstances (e.g., time pressure) influenced affect more than job satisfaction, which is supported by the results of our study. Long-term job circumstances (e.g., psychological contract-fulfillment) and personal characteristics (e.g., personal initiative) showed a strong impact on job satisfaction. It is important to note that, when comparing general measures of well-being (e.g., life satisfaction) versus the DRM, some authors have found both to be reliable (Krueger and Schkade 2008). Thus, both approaches are worthwhile and produce relevant knowledge.

6.3 Limitations

One potential limitation may come from the focus on a domain-specific measure like job satisfaction. According to Kahneman and colleagues (2004), this approach could produce the *focusing illusion*, which occurs when researchers make employees think about their jobs, activating errors and cognitive biases. For instance, *vox populi* positive ideas (such as “work dignifies a person’s life”) or errors in recall may be induced. Nevertheless, given that our measure of job satisfaction used a well validated questionnaire with a large number of items that draw attention to a large number of job facets, this focusing illusion may be at least partly neutralized. Additionally, the study of Sjöfors and Tickell (2015) shows that Millennials, in comparison with Baby-boomers, view their work different. Thus, it is reasonable to expect that positive cognitive bias like those coming from *vox populi* ideas are different in young employees and also partially neutralized. For instance, at work Millennials value more *making work fun*, on the other hand, Baby-boomers are 67 % more interested in *making more money* (e.g., bonus) than *doing something good* (e.g., purpose or mission-driven work) (Sjöfors and Tickell 2015).

Another limitation may come from the fact that, although performance was assessed considering facet and domain specification, which reflect salient measurement tendencies. Yet, to reduce some of the same-source method bias (Podsakoff et al. 2003), future research should include other sources, such as supervisor evaluations. Along these lines, repeated evaluations separated in time could also reduce common method bias, and so future research should also include longitudinal designs when using self-assessments. Our self-evaluated measure of performance could partly explain why only 15 % of our sample was identified as having an anomalous pattern. There are probably more employees within these patterns, and performance evaluations by supervisors could provide us with a more accurate estimation.

In spite of the limitations, this paper paves the way for future research, offering a more realistic view of how well-being and performance might interact at work, and valuable information differentiating four patterns.

6.4 Practical Implications

Since its foundation, organizational psychology has tried to improve well-being and performance. In this regard, our taxonomical approach provides relevant empirical evidence, facilitating the achievement of this endeavor, and we also identify implications for other

stakeholders. First, the results suggest that job satisfaction and innovative performance together form four profiles. This indicates the need for theoretical precision; thus, scholars should integrate this complexity into the happy-productive worker thesis to study a broader taxonomy of relations and the conditions in which these patterns are elicited.

Second, our results show that it would be worthwhile for organizations to find mechanisms to track and ensure the fulfillment of their commitments to young employees. At the same time, organizations might carefully consider HR policies such as staffing to establish mechanisms to avoid organizational phenomena such as over-qualification. In our study, young employees with more years of over-qualification belong to a pattern where job satisfaction is low (unhappy). Although some of them also innovate at work (productive), in the long run, over-qualification might have toxic effects on job satisfaction, for example, when co-workers are promoted, or when efforts to change do not lead to improvements in job conditions.

Third, the results also suggest that personal initiative represents an important mechanism in having a sustainable young workforce. In our study, young employees with higher levels of personal initiative were differentiated by being happy and productive. Hosie and Sevastos (2010) argue that stakeholders need to rethink the way they approach training programs, especially those designed to develop soft skills in the workplace.

7 Conclusion

At the beginning of this article, we noted that the relationship between well-being and job performance remains unresolved, partly because the happy-productive worker thesis literature has ignored all but two patterns of relationships. Our main objective in this study was to extend this thesis by identifying the patterns: *happy-productive*, *happy-unproductive*, *unhappy-productive* and *unhappy-unproductive*. This is a valid, interesting, and useful taxonomy with which to study well-being and performance at work. It is our hope that addressing these limitations will lead to a possible resolution of the happy-productive conundrum. Thus, the *unhappy* but *productive* or *happy* and *unproductive profiles* should be targets of future research. Moreover, this research has contributed to identifying some personal and contextual variables that influence and differentiate among the four patterns. Future research will need to study how stable or dynamic these patterns are over time, and what their consequences are in the long-run. This knowledge will help us to create more effective interventions for organizations, assist people in moving toward a more positive and balanced pattern of well-being, and assess its contribution to performance and vice versa.

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Compliance with Ethical Standards

Conflict of interest The authors declared no potential conflict of interest with respect to the authorship and/or publication of this article.

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