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## Quality of Life of Academic Actors. Career Trajectories and Working Conditions

Alfredo Matrella\*

### Author information

\* Department of Communication and Social Research, Italy.  
Email: [alfredo.matrella@uniroma1.it](mailto:alfredo.matrella@uniroma1.it)

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# Quality of Life of Academic Actors. Career Trajectories and Working Conditions

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**Abstract:** Universities worldwide have undergone significant changes, such as rising student numbers and the reduction of education and research funding. In particular, universities in Italy have faced drastic funding cuts, making university careers increasingly unattainable and leading to heightened stress among academic staff. Recognizing the need to study the quality of life of academics, a survey was conducted from December 2022 to February 2023 at the Sapienza University of Rome. Covering various academic roles, the study aimed to understand the “academic field”, that is the interactions among individuals in academia. Early career researchers were included, given their significant impact by ongoing academic changes. The data was analyzed using multivariate analysis, identifying indices of interference between life domains and their positive or negative relationship with work discomfort. The analysis conducted revealed different aspects of career and life trajectories. The findings suggest that a good organization amidst multiple daily commitments reduce work discomfort. Academic staff’s quality of life is also improved if individual value leisure and personal growth, preventing work domain from negatively affecting their daily routine. The study also highlighted variations in experience based on job category, gender, and the distinction between ‘hard’ and ‘soft’ sciences.

**Keywords:** Working conditions, Academic Field, Interrole Conflict, Survey Research, Work-related stress.

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## **An introduction on critical aspects of academia**

In recent years, universities have faced intense and far-reaching changes globally (Wray & Kinman, 2022), such as increasing student numbers, the generation auxiliary revenue streams (Sell, 2023), and the reduction in funding dedicated to education (Wöhrer, 2014) and research. As a result, entry into and permanence in the university career are gradually less achievable goals; this precariousness has led to conditions of isolation and competition (Giancola & Toscano, 2017) that can contribute to increasing levels of stress (Wray & Kinman, 2022), which have already been found to be high within academic staff in several studies carried out in recent years (Kinman & Jones 2008; Winefield et al. 2008; Reevy & Deason, 2014; Mudrak et al. 2018; Pujol-Cols & Lazzaro-Salazar 2018).

In Italy, one of the reasons for the increase in studies on university workers is of a regulatory nature. Since Legislative Decree no. 81/2008, work-related stress has been recognized as a risk factor for the health and well being of workers. Following on from this law, Legislative Decree no. 150/2009 established the obligation for Public Administration to annually survey organisational well being by means of surveys on staff perception of various aspects, such as working conditions, interpersonal relationships and the sense of belonging to the administration itself. For this reason, in all public organizations, including universities, the survey of employees' opinions through anonymous questionnaires is provided to enhance human resources, increase workers' motivation, satisfaction and sense of belonging, as well as to prevent psycho-social risks such as work-related stress. The guidelines proposed in 2010 by the Permanent Advisory Commission on Occupational Health and Safety for the assessment of this type of stress are particularly suited to carrying out research on technical-administrative university staff; the same cannot be said for teaching staff, for whom different analytical tools would be required, whose design is more complex (Marcatto et al., 2016). In an attempt to overcome this difficulty, in 2020 Sapienza University of Rome planned to include teaching staff in the periodic survey on organizational well being, promoted since 2013 and initially aimed only at technical-administrative staff. A limitation of this survey, however, lies in the fact that early career researchers (ECRs) were not included in the survey, even though they are not only the "scientists of the future", but are also those most affected by the current changes in the academic world (Wöhrer, 2014). In addition, drastic reduction in funding for both universities and research have led to conditions of isolation and competition that can contribute to fuelling new resilience strategies among these researchers, such as carrying out part of the work of professors (Giancola & Toscano, 2017). When attempting to better understand the system of interactions in which academics act, it may

therefore be inappropriate to exclude from the analysis some actors who are part of it and contribute to its formation.

Another limitation of the surveys provided for Public Administration employees in the context of academic work is related to the lack of attention given to the type of relationship between the various work categories at different hierarchical levels, which can be a relevant factor with respect to the social dynamics that sometimes direct activities carried out by the various individuals within the university organization. Here, in line with Bourdieu's thinking, the university context is understood as a social space within which interactions take place between individuals and groups of individuals who compete and work to change the laws of obtaining opportunities and advantages. Clearly, the type of relationship is only one of the many factors that can contribute to influencing the system of interaction between university actors; in addition, these factors can also have effects on other aspects such as productivity, and perception of stress and alienation, which can modify the quality of the work experience of university staff not only with respect to the numerous dynamics related to the work context, but also between what happens in this domain of life and in the other main domains, such as the domestic-family and free time (Crooker et al., 2002; Byrne, 2005; Wu, 2009; Sirgy et al., 2010; Reuschke, 2019). Therefore, in order to study the quality of life of workers, it must be considered that work in the strict sense and all aspects connected to it, such as relationships, are inevitably linked to the entire daily life of individuals, in a relationship of reciprocal influence. For example, precariousness - a phenomenon that characterizes the academic career - can influence workers' strategies on an economic, housing and even parenting level (Coin, Giorgi & Murgia, 2017). All this may suggest the need for a greater analytical effort than just the study of the dichotomous relationship between work and non-work, so it might be more appropriate on the one hand to consider that in the same domain each individual is called upon to respond to needs of multiple natures, on the other hand to keep in mind that there are multiple domains of life and that the boundaries between them can be blurred (Clark, 2000) or subjectively permeable (Capitano et al., 2017). In recent years, universities have faced intense and far-reaching changes globally (Wray & Kinman, 2022), such as increasing student numbers, the generation auxiliary revenue streams (Sell, 2023), and the reduction in funding dedicated to education (Wöhler, 2014) and research. As a result, entry into and permanence in the university career are gradually less achievable goals; this precariousness has led to conditions of isolation and competition (Giancola & Toscano, 2017) that can contribute to increasing levels of stress (Wray & Kinman, 2022), which have already been found to be high within academic staff in several studies carried out in recent years

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### **The role played by inter-domain interference in the quality of life of workers**

Before the term quality of working life (QWL) became widespread in the scientific community, the concept of quality of work was used (Gosetti, 2012). However, the origin of the studies aimed at QWL can be historically placed as early as the first half of the 1900s, starting from the research carried out in the factories of the Western Electric Company in Hawthorne (Rothlisberger, Dickson, 1939), which favoured the spread of awareness that productivity can be influenced by the organizational climate and/or the well being of workers; for this reason, since then, relational and motivational aspects have tended to be included in work and workers' studies (Mayo, 1945). This has contributed to overcoming the idea that work organizations must be aimed solely and exclusively at achieving maximum results, even to the detriment of workers' health conditions (Avallone & Bonaretti, 2003). Other sociological contributions, in line with the spread of this theme in Italy between the 70s and 80s, stated that the quality of work was configured as the result of the relationship between the characteristics, and goals, of the work organization and the workers' needs (Gallino, 1983). In addition, in the same years, important arguments were made on the types of needs relat-

ed to work, namely: a) subjective needs, relating to the individual needs of workers; (b) objective needs, relating to economic and environmental conditions; c) social needs, concerning aspects related to the sociality generated by work (La Rosa, 1983). The above is the basis of the reflections put forward by Giorgio Gosetti (2012), who proposed a definition of QWL, starting from the historical reconstruction of the evolution of studies on these issues: he highlights the transition from a theoretical-conceptual, analytical and operational point of view from the study of working conditions, in terms of the interest of ergonomic and economic conditions, to the study of the quality of work, in terms of the intrinsic quality of the work activity. Finally, Gosetti proposes a further transition from the study of the quality of work to the study of QWL understood as the sum of the intrinsic quality of work and the quality of the relationship between work and life. In this sense, in order to carry out an analysis of QWL, it is necessary to take into consideration two analytical perspectives, namely: the subjective perspective and the objective perspective. The first refers on the one hand to the expression of the degree of satisfaction that individuals have with respect to their work and on the other hand to the evaluation they provide of the characteristics of the work. In other words, grasping the subjective component can mean giving importance to personal ways of experiencing one's work (La Rosa, 1987). As for the objective perspective, it refers on the one hand to the "concrete" behaviours implemented by the workers and on the other to the organizational conditions of work. Moreover, in the objective perspective the outcomes of what is called the relationship between work and life (Gosetti, 2012) should also be considered. This type of reading of the world of work may derive from an approach that constantly focuses attention on the reciprocal generativity of action and structure, which puts the elements of analysis in relation to each other. Therefore, in line with part of the conceptual legacy of Bourdieu (1984), it is necessary to note what drives the behaviour of individuals (the *habitus*) and to grasp the construction of meanings related to work and the workers' system of expectations. These aspects must be interpreted considering what characterizes the work organization, which in Bourdieusian terms would then become the field of work, which represents the set of constraints and resources (Gosetti, 2012).

In this study it was considered appropriate to present a further passage (see fig. 1), from QWL to quality of life of workers (QLW), as approaches on QWL may present critical issues related to the analysis of the dichotomous relationship between life and work, given the complexity of the domains that characterize the life of each individual (Pichler, 2009). This may imply that work is not positioned on a level of generality equal to that of life, but could fall within the different domains that compose it.

Figure 1 - Transition from the study of working conditions to the study of the quality of life of workers



Furthermore, recalling the reflection put forward by Elster (2008), it is important to underline how the expression QWL can suggest the existence of a specific life of work and therefore mislead the researcher. In fact, this concept should be more clearly attributable to the social actor that we intend to investigate, i.e. the worker. Similarly, the reference to “working life” seems to focus on a single experiential domain (the area of work) of the individual, despite the fact that the authors who use this expression declare the relationship between work and non-work aspects to be essential. On the contrary, the aim in this study is to make it clear that the focus is not on some sort of sub-domain of life, but on everyday life as a whole. To this end, one of the most widespread theories in studies related to workers’ lifestyles will be considered, namely, the theory of Conservation of resources (COR). According to the assumptions of this theory, individuals in their daily lives try to maintain and acquire resources such as energy and time (Mochi & Madjar, 2018). The former can be divided into emotional, physical and cognitive energies and fall within what Hobfoll (1989) defined as psychological strain; even an interference that is perceived as physical is indeed often caused by a sense of anxiety about the tasks to be carried out that generates fatigue (Gross & Bartley, 1951). These energies are not unlimited and are used in different quantities by each individual throughout the day: if after carrying out work activities individuals still have energy that can be spent in other domains, they can also devote themselves to other aspects of their life and experience well being; on the contrary, if the remaining energies are limited, it will be difficult to devote oneself to the domestic-family domain, or to that of free time, and this can result in a relationship of conflict between domains (Ilies et al. 2015). Similarly, the time spent on one domain can be particularly high and lead to interruptions or absence of activities related to the other domains. The presence, absence or lack of these resources therefore affects whether or not one experiences a condition of inter-role conflict (Mochi & Madjar, 2018). In addition, being subject to inter-role conflict can result in anxiety, depression, and stress (Sirgy & Lee, 2018) since individuals may experience situations in which expectations related to one role are incompatible with those related to another role (Greenhaus, Parasuraman & Collins, 2001), bearing in mind that each individual can simultaneously live multiple roles (Merton, 1968). Therefore, the incompatibility between life roles can



lead to a decrease in the use of resources dedicated to these roles resulting in observable negative effects on the various domains of life (Greenhaus & Beutell, 1985). From this we can deduce an interconnection between the domains that could affect the whole quality of life of workers due to an increase in work discomfort, understood on the one hand as emotional and cognitive strain experienced due to work, and on the other hand the effects that work can have on physical health (Taddei, 2013). In addition, time-based interferences can also influence the increase, or reduction, of work discomfort, as the interruption of activities related to one domain due to activities related to another domain can make the daily life of individuals more or less stressful.

## Methodology

In order to investigate the relationship between the interferences experienced in the various life domains and work discomfort, a mixed research design (Johnson, Onwuegbuzie & Turner, 2007) was conducted, based on a closed web survey and a deepened qualitative phase on the staff of the Sapienza University of Rome. The choice fell on Sapienza partly due to the ongoing studies on organizational well being mentioned previously, and because it is the biggest university in Europe. The study was launched between December 2022 and February 2023, with a questionnaire sent to the public institutional emails of university staff, which made it possible to reach 1111 workers. The study lasted about three years, from its conception to the interpretation of results, and explored the dynamics in the university field that govern interactions within the university and the effects of these interactions with respect to the interferences on life domains and work discomfort. The data presented was selected from this wider study, deleting those about the technical-administrative staff. The focus was indeed only on academic staff (n. 817), using a combination of multivariate analysis techniques, in order to reconstruct the different career trajectories and consequently life trajectories that characterize these workers. In particular, a two-step principal components analysis<sup>1</sup> (Di Franco & Marradi, 2003) was used for identifying factors that were turned into indices useful for contingency tables analysis (Kateri, 2014) and multiple correspondence analysis (Di Franco, 2006) as per the Bourdieusian theoretical and epistemological approach (Bourdieu & Wacquant, 1992). Moreover, a hierarchical cluster analysis was carried out in order to detect the presence of a maximum heterogeneity between groups and a maximum homogeneity within each group referring to workers' lifestyles.

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<sup>1</sup> Kaiser-Meyer-Olkin Test and Bartlett's Test of Sphericity were statistically significant for all the procedures carried out.

The sample is composed of professors (full and associate professors), senior researchers (permanent researchers; RTDB<sup>2</sup> assistant professors), junior researchers (RTDA and RTT<sup>3</sup> assistant professors; research fellows) and PhD students, with a distinction made based on gender and disciplinary macro-areas, as shown in the following table.

Table 1 – Characterization of the sample

		Count	%
Gender	Male	400	47.9
	Female	423	50.7
	Other	12	1.4
Job categories	Professors	317	38.0
	Senior researchers	110	13.2
	Junior researchers	160	19.2
	PhD students	248	29.6
Disciplinary macro-areas	Architecture and Engineering	169	20.3
	Social Sciences and Humanities	253	30.3
	Health Sciences	254	30.4
	Mathematical, Physical and Natural Sciences	158	19.0

The research questions that guided the investigation are: whether or not interferences between domains of life can influence work discomfort, and whether these interferences have positive or negative effects on work discomfort. In order to answer these questions, six indices were constructed using two-step principal component analysis. The first factor was obtained from an adaptation of the psycho-physical stress scale<sup>4</sup> proposed for a study on QWL (Mauceri, 2013), the second and third from variables related to time-based interference between domains<sup>5</sup>, while the fourth, fifth and sixth from variables related to strain-based interferences<sup>6</sup>.

<sup>2</sup> In Italy, fixed term researchers are divided in two categories: RTDA and RTDB.

<sup>3</sup> Tenure track researchers.

<sup>4</sup> For each question, respondents were asked to rate the incidence of physical and psychological stressors through the use of an absolute frequency scale (consisting of the following response modes: *more than once a week, at least once a week, at least once a month, less than once a month, never*) and a relative scale (*always, often, sometimes, rarely, never*).

<sup>5</sup> The principal component analysis on the time-based interference variables led to the extraction of three factors, which explain a total of 60% of the variance. However, only those factors that can be semantically traced back to specific interferences have been selected.

<sup>6</sup> Both time-based and strain-based (emotional, cognitive and physical) interferences were calculated by asking respondents how often they experienced this type of interference in various domains, using a relative frequency scale that predicted the following modes of response: *never, rarely, sometimes, often*.

The six indices obtained are as follows: work discomfort<sup>7</sup>, time-based free time interference<sup>8</sup>, time-based work interference<sup>9</sup>, strain-based domestic-family (DF) interference<sup>10</sup>, strain-based work interference<sup>11</sup> and cognitive free time interference<sup>12</sup>. In the next paragraph, the results related to the rela-

<sup>7</sup> Work discomfort (variance  $\sigma$ : 47%) = in relation to the work experience: feeling empty (0.133), suffering headaches and/or dizziness (0.120), feeling abused (0.099), tiring easily (0.146), suffering from sleep disorders (0.130), feeling isolated (0.128), experiencing joint and/or musculoskeletal pain (0.120), having stomach pain and/or nausea (0.138), feeling easily irritated (0.152), feeling anxious (0.157), feeling insecure (0.119).

<sup>8</sup> Time-based free time interference ( $\sigma$ : 19%) = interrupting: work to meet the needs of cohabitants (-0.004), household tasks due to work activities (-0.231), care for loved ones due to work commitments (-0.149), work due to needs related to household tasks (0.079), free time activities due to work requirements (-0.202), free time activities due to household tasks (-0.117), free time activities to take care of loved ones (-0.072), work due to free time activities (0.415), a domestic activity due to free time activities (0.332), care for loved due to free time activities (0.355).

<sup>9</sup> Time-based work interference ( $\sigma$ : 12%) = interrupting: work to meet the needs of cohabitants (-0.428), household tasks due to work activities (0.347), care for loved ones due to work commitments (0.204), work due to needs related to household tasks (-0.325), free time activities due to work requirements (0.366), free time activities due to household tasks (-0.233), free time activities to take care of loved ones (-0.166), work due to free time activities (0.036), a domestic activity due to free time activities (0.361), care for loved due to free time activities (0.158).

<sup>10</sup> Strain-based DF interference ( $\sigma$ : 27%) = after work I am too tired to do anything else (0.103), I think about work while doing household activities (0.125), sometimes I'm in a bad mood because of work (0.157), sometimes I think about work during free time activities (0.139), because of domestic-family commitments I am too tired to do anything else (0.197), domestic-family commitments make it difficult to concentrate while I am at work (0.202), during free time activities I distract myself by thinking about domestic-family commitments (0.203), domestic-family commitments put me in a bad mood (0.202), doing activities related to free time make me too tired to do anything else (0.148), sometimes I think about free time while doing work (0.103), sometimes I think about my free time while I am doing domestic-family commitments (0.147), free time activities put me in a bad mood (0.138).

<sup>11</sup> Strain-based work interference ( $\sigma$ : 19%) = after work I am too tired to do anything else (0.256), I think about work while doing household activities (0.313), sometimes I'm in a bad mood because of work (0.229), sometimes I think about work during free time activities (0.308), because of domestic-family commitments I am too tired to do anything else (-0.009), domestic-family commitments make it difficult to concentrate while I am at work (-0.120), during free time activities I distract myself by thinking about domestic-family commitments (-0.062), domestic-family commitments put me in a bad mood (-0.072), doing activities related to free time make me too tired to do anything else (-0.175), sometimes I think about free time while doing work (-0.145), sometimes I think about my free time while I am doing domestic-family commitments (-0.155), free time activities put me in a bad mood (-0.198).

<sup>12</sup> Cognitive free time interference ( $\sigma$ : 11%) = after work I am too tired to do anything else (0.013), I think about work while doing household activities (0.087), sometimes I'm in a bad mood because of work (0.174), sometimes I think about work during free time activities (0.111), because of domestic-family commitments I am too tired to do anything else (-0.306), domestic-family commitments make it difficult to concentrate while I am at work (-0.253), during free time activities I distract myself by thinking about domestic-family commitments (-0.199), domestic-family commitments put me in a bad mood (-0.168), doing activities related to free time makes me too tired to do anything else (0.018), sometimes I think about free time while doing work (0.536), sometimes I think about my free time while I am doing domestic-family commitments (0.421), free time activities put me in a bad mood (0.081).

tionship between these indices and the variables used to describe the sample will be presented.

### **Daily-life strategies and the positive or negative effects of inter-domain relations**

The way in which individuals organize their daily lives can be a sociologically relevant aspect to study the quality of life of academic staff, since observing the type of interaction between activities pertaining to different domains and the consequences that these interactions can have may be useful to understand some strategies of daily life and how these strategies can be a response to different social situations. Through the analysis of contingencies, it was possible to observe that an increase of the interference of work, both psychological and temporal, on the other domains of life was significantly associated, with  $p = .000$ , to an increase of work discomfort. The relationship between psychological interference of work was also significant when considering gender ( $p=.001$ ) and job category ( $p=.008$ ). In the first case, it emerged that women experience this type of interference more often than men (high interference 20% vs 11%). As for the job category, junior researchers experience the psychological interference of work the most, while professors experience it least often (high interference 25% vs 11%). On the contrary, work interference at the temporal level was significant only in relation to gender, with  $p = .000$ ; again, a high interference is more frequent for women than for men (21% vs 10%).

What has been observed with respect to the relationship between work discomfort and work interference is also true with regard to domestic-family psychological interference ( $p = .000$ ). Similarly, this type of interference led to a significant relationship with both gender ( $p=.017$ ) and job category ( $p=.008$ ). Once again, women are more likely to experience this type of interference than men (18% vs 12%), while PhD students experience high domestic-family psychological interference more often than other academics and especially compared to professors (20% vs 11%).

What differs from what has been observed so far is the third domain of life included in the survey, namely that relating to free time: if on the one hand it has been observed that the increase in the temporal interference of free time on the other domains can suggest a reduction in work discomfort ( $p = .000$ ), on the other hand it was possible to observe how the increase in cognitive interference of free time can correspond to an increase in perceived work discomfort ( $p=.039$ ). This may suggest that the lack of daily time dedicated to relaxation, entertainment or personal well being may correspond to an increase in work stress, as during the day the desire to dedicate oneself to activities that are rarely carried out or often postponed can be great. In addi-

tion, this type of interference was significant in relation to gender ( $p=.000$ ), job category ( $p=.000$ ) and disciplinary macro-area ( $p=.025$ ). With respect to gender, the greatest difference is found in reference to those who experience this type of positive interference less, i.e. women (low interference 22% vs 9%). On the contrary, the category that experiences the temporal interference of free time less frequently are senior researchers and the group that experiences it more is PhD students (high interference 6% vs 23%). Finally, staff belonging to the macro-area of Health Sciences stands out for being the group that least easily interrupts activities related to other domains in favour of free time (low interference 20% vs 10-16%<sup>13</sup> for the other macro-areas). On the other hand, academics of Social Sciences and Humanities show a higher temporal interference of free time (high interference 21% vs 11-15%<sup>14</sup> for the other macro-areas). On the other hand, the cognitive interference of free time was significant, with  $p = .000$ , with respect to job category alone. PhD students are the group that thinks about free time more often, while professors think least about it (31% vs 7%). Given that PhD students were also found to be those with a higher temporal interference of free time than other academics, this data suggests that in some cases the high amount of free time may not coincide with a satisfaction with the activities carried out in this domain, which leads individuals to experience moodiness and malaise that then spill over into the other domains of life.

To proceed with the multiple correspondence analysis, the constructed indices were selected as active variables. On the other hand, in addition to job category, gender and disciplinary macro-area, the illustrative variables concern: the willingness to change working time hours, the hours dedicated daily to domestic-family commitments, work activities and free time, the number of children and cohabitants and finally the indices of satisfaction with respect to the relationship with superiors and colleagues<sup>15</sup> and intrinsic and extrinsic satisfaction at work<sup>16</sup>. The variables relating to the hours dedicated to the different domains have been included as they are useful for better understanding how the daily life of academic workers is structured, while the number of children and cohabitants allows us to reconstruct fundamental aspects of the domestic-family context. Finally, many aspects relat-

<sup>13</sup> The percentages referred to the other disciplinary macro-areas vary in a range between 10% and 16%.

<sup>14</sup> The percentages referred to the other disciplinary macro-areas vary in a range between 11% and 15%.

<sup>15</sup> These indices were measured from a four-gradient Likert scale.

<sup>16</sup> These indices are additive indices, constructed from variables relating to satisfaction with respect to pay, job stability, organizational autonomy and the perception of working in a safe place (extrinsic satisfaction) and with respect to interest in the activities carried out for work, the perception of professional fulfilment, the perception of the social impact of work and the perception of doing a boring job (satisfaction with the social impact of work).

ed to the work domain have been considered, both because of the interest in reconstructing the university field, and because – given the high amount of time dedicated to work – the debate on the reduction of working hours has been seen at a European level in recent years (Bruyère et al., 2006; Deidda & Emanuele, 2011; De Spiegelaere & Piasna, 2018; Deidda & Menegatti, 2023).

The multiple correspondence analysis identified two factors, which explain respectively 26.2% and 20.4% of common inertia. Examining the different coefficients and factor coordinates, these factors were named as follows:

1. *Centrality of work* (negative pole: low salience of work domain; positive pole: high salience of work domain) = this factor refers to life strategies of individuals that, consciously or not, spend their time and energies only for the work domain or for other domains (Maeran, 2011) and, in this way, they may or may not experience work discomfort (Appendix 1);
2. *Compensation* (negative pole: work alienation; positive pole: well being derived from working) = this factor refers to life strategies of individuals that, consciously or not, because of satisfaction/ dissatisfaction in one or more life domain spend their time and energies on the other/others (Sirgy & Lee, 2018) (Appendix 2).

Based on the extracted factors, through the mixed procedure available on the Spad software to conduct the cluster analysis<sup>17</sup>, five groups have been identified:

1. First group: Satisfied and Stakhanovite workers (14.9% - Tab. 2). It presents individuals for whom work is central, since it interferes a lot both from a psychological (81%) and temporal (74%) point of view, while interferences related to the domestic-family domain from a psychological point of view (100%) and those related to free time from a temporal point of view (100%) are low; moreover, these devote a maximum of one hour a day (53%) to their free time. This is also associated with low psycho-physical work discomfort (100%), probably due to high intrinsic (93%) and extrinsic (66%) satisfaction. The members of this group therefore do not seem to be affected by work commitments, which on the contrary have a positive effect on their state of mind, which can also spill over into the other domains, increasing satisfaction with respect to their whole life. Spreading a positive mood about one role can also help invest the energy needed to effectively cope with experiences related to another role, so as to improve role performances (Edwards & Rothbard, 2000); this could help to understand why most individuals in this cluster are professors (52%).

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<sup>17</sup> The cluster analysis resulted in a ration of 81%.

Table 2 – Characterization of the first cluster: Satisfied and Stakhanovite workers

Characteristics of cluster 1	%Cluster/Mod	%Mod/Cluster	%Sample	Test-value
Low strain-based DF interference	28.67	100.00	51.97	13.30
Low work discomfort	28.54	100.00	52.21	13.25
High strain-based work interference	24.05	80.80	50.06	7.58
Low time-based free time interference	22.95	80.80	52.44	7.02
High time-based work interference	22.46	74.40	49.34	6.08
Fairly intrinsically satisfied	17.55	92.80	78.78	4.42
Professors	20.50	52.00	37.78	3.41
Fairly extrinsically satisfied	18.06	65.60	54.11	2.72
Free time: Max 1 hour	18.97	52.80	41.48	2.67

2. Second group: Stressed out workers (17.2% - Tab.3). Contrary to what was observed for the previous group, for these individuals the temporal priority given to work (68%) correlates with a high psychological work interference (92%) with negative effects, given that they have a high degree of psycho-physical work discomfort (71%) and a low intrinsic satisfaction (29%). In addition, as noted above, the priority given to work involves a low interference both from a psychological point of view with respect to domestic-family commitments (71%), to which little time is dedicated (33%), and from a temporal point of view with respect to leisure activities (81%). However, the high cognitive interference of free time (62%) suggests a desire for more time to devote to hobbies or relaxation. The discrepancy between one's current life experience and the way one would like to live indicates the presence of relative deprivation (Merton, 1968; Brown, 1995) and therefore an overall dissatisfaction with one's own life. The gender characterization (60%) may suggest that these characteristics could be linked to the difficulties in accessing work and career advancement that have historically described the situation of women in Italian universities (Frattini, 2012), which force this social category to overshadow domains that they consider important.

Table 3 - Characterization of the second cluster: Stressed out workers

Characteristics of cluster 2	%Cluster/Mod	%Mod/Cluster	%Sample	Test-value
High strain-based work interference	31.67	92.36	50.06	11.84
Low time-based free time interference	26.59	81.25	52.44	7.77
High work discomfort	25.44	70.83	47.80	6.05
Low strain-based DF interference	23.39	70.83	51.97	4.95
High time-based work interference	23.67	68.06	49.34	4.88
High cognitive free time interference	22.14	60.42	46.84	3.50
Domestic/family: max 1 hour	23.53	33.33	24.31	2.61
Fairly intrinsically unsatisfied	23.73	29.17	21.10	2.43
Females	20.37	60.42	50.89	2.43

3. Third group: Unsatisfied overtime workers (18% - Tab.4). This group is characterized by a high temporal interference of work (67%), to which more than 10 hours a day are often dedicated (33%). Extrinsic (65%), intrinsic (37%) and with colleagues (33%) dissatisfaction makes the working day unpleasant; indeed, these individuals experience a high degree of psycho-physical discomfort (100%) and a high psychological interference related to domestic-family commitments, while once again free time is set aside (73%) compared to the other domains. This group seems to be affected by the imbalance between work and other aspects of life, and this can generate a sense of malaise and injustice (Boudon, 2002). The fact that it is composed predominantly of women (61%) suggests that this dissatisfaction with the reconciliation of life domains may be linked to role expectations, given that women are still the figure with the greatest responsibilities at the domestic-family level (Pati, 2010) and for this reason they are more likely to experience a scarcity of free time, both on weekdays and weekends (Chatzitheochari & Arber, 2012). Similarly, given the publish or perish logic (Colarusso & Giancola, 2020) to which precarious staff must submit in order to establish themselves in the academic world,



it is not surprising that in a group characterized by this type of renunciation there is a considerable percentage of junior researchers (30%).

Table 4 - Characterization of the third cluster: Unsatisfied overtime workers

Characteristics of cluster 3	%Cluster/Mod	%Mod/Cluster	%Sample	Test-value
High work discomfort	38.15	100.00	47.80	16.01
High strain-based DF interference	37.97	100.00	48.03	15.95
High strain-based work interference	32.86	90.20	50.06	11.54
Fairly extrinsically unsatisfied	26.88	65.36	44.34	5.70
Low time-based free time interference	25.45	73.20	52.44	5.70
High time-based work interference	25.85	69.93	49.34	5.60
Fairly intrinsically unsatisfied	31.64	36.60	21.10	4.85
Work: More than 10 hours	30.49	32.68	19.55	4.22
Fairly unsatisfied with colleagues	29.73	28.76	17.64	3.70
Junior researchers	28.75	30.07	19.07	3.57
Females	22.01	61.44	50.89	2.81

4. Fourth Group: Marginal workers (28.7% - Tab. 5). These individuals show a low interference of work, both psychological (85%) and temporal (68%), while they experience high interferences related to the domestic-family domain from a psychological point of view (86%) and to that of free time from a temporal point of view (78%); indeed, they tend to devote several hours a day to activities related to hobbies or relaxation (27%). For this reason, the cognitive interference of free time is low (63%); however, the fact that they are PhD students (37%) with a high degree of psycho-physical work discomfort (59%) leads to the assumption that the centrality of the domestic-family domain and especially that of free time is linked to a low involvement in the academic context, which is associated with nega-

tive effects on physical and mental health related to the fear of not being able to make a career. In fact, it has been observed that a good integration in the work context (networking) is related to current salary and even to the rate of salary growth over time (Wolff & Moser, 2009), which in the academic field are necessarily connected to reaching a hierarchically superior role. Similarly, several studies (Yean & Yahya, 2008; Lau & Pang, 2000) underline how the positive image that superiors have of a worker implies a higher chance for the latter to achieve career advancement and higher wages, leading the individual to perceive a greater sense of personal success.

Table 5 - Characterization of the fourth cluster: Marginal workers

Characteristics of cluster 4	%Cluster/Mod	%Mod/Cluster	%Sample	Test-value
High strain-based DF interference	51.61	86.31	48.03	14.55
Low strain-based work interference	49.16	85.48	49.94	13.50
High time-based free time interference	47.12	78.01	47.56	11.35
Low time-based work interference	38.59	68.05	50.66	6.38
High work discomfort	35.66	59.34	47.80	4.18
Low cognitive free time interference	34.30	63.49	53.16	3.75
PhD students	35.48	36.51	29.56	2.69
Free time: 3 to 4 hours	37.21	26.56	20.50	2.62

5. Fifth Group: Satisfied and well-organized workers (21% - Tab. 6). This cluster presents individuals with high intrinsic (94%), extrinsic (70%) and with superiors (38%) satisfaction. In addition, the individuals in this group are characterized by low interference both from the psychological point of view related to the domestic-family (100%) and work (93%) domains, and from the point of view of work interference at the temporal level (75%). This may be due to the fact that these individuals recognize the importance of free time, which therefore interferes a lot from a temporal point of view (68%). Leisure (Dumazedier, 1974) is indeed playing an increasingly important role in the lives of workers (Gershuny, 2000),

as it can contribute to the definition of oneself and one's social status, and therefore also to the achievement of life satisfaction. However, in the light of what has been said so far, it seems that in the academic world there are few social categories in a position to benefit from the advantages of free time to increase their quality of life, both for reasons related to precariousness and gender: in accordance with what was observed in the previous groups, it can be seen that this cluster is predominantly represented by men (61%) and professors (47%), as well as individuals belonging to the macro-area of Architecture and Engineering, which is historically male-dominated.

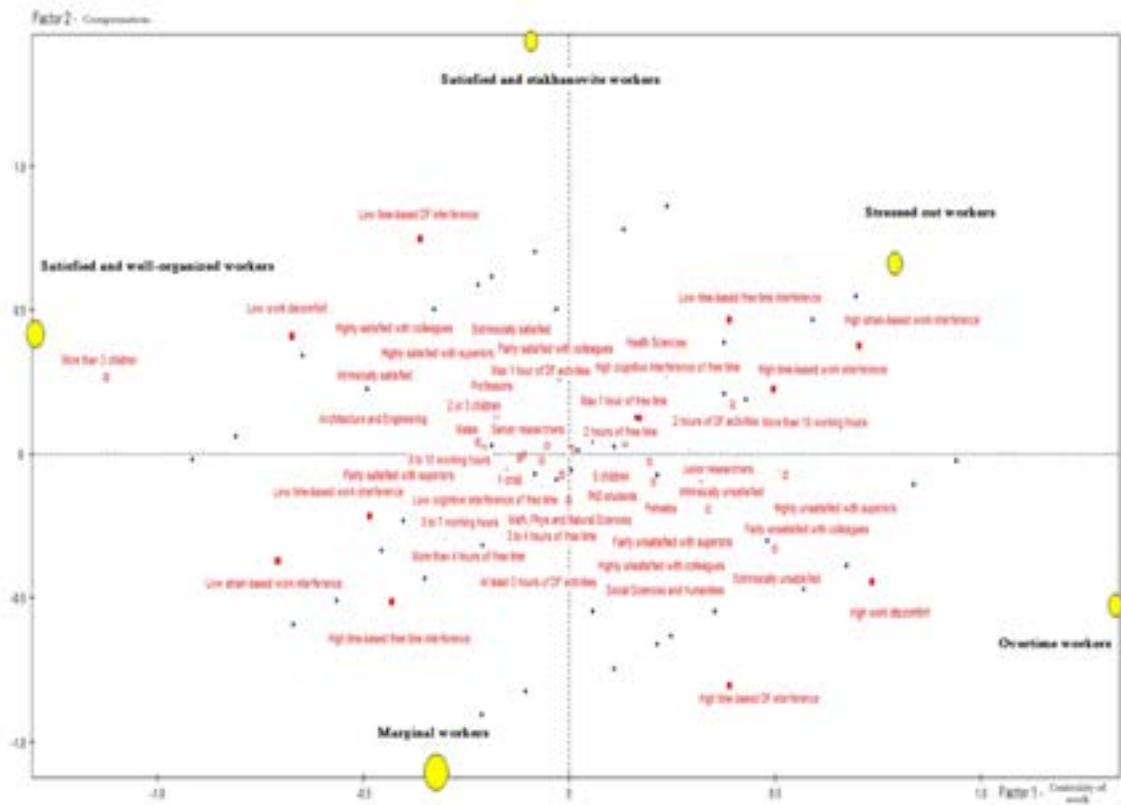
Table 6 - Characterization of the fifth cluster Satisfied and Well-organized workers

Characteristics of cluster 5	%Cluster/Mod	%Mod/Cluster	%Sample	Test-value
Low strain-based DF interference	40.37	100.00	51.97	16.32
Low work discomfort	39.50	98.30	52.21	15.31
Low strain-based work interference	38.90	92.61	49.94	13.52
Low time-based work interference	32.24	77.84	50.66	8.22
High time-based free time interference	29.82	67.61	47.56	5.94
Fairly intrinsically satisfied	24.96	93.75	78.78	5.89
Fairly extrinsically satisfied	27.09	69.89	54.11	4.70
Males	27.00	61.36	47.68	4.01
Highly satisfied with superiors	29.86	37.50	26.34	3.60
Professors	26.18	47.16	37.78	2.78
Architecture and Engineering	28.99	27.84	20.14	2.69

On the basis of the above, it is possible to make some reflections. First of all, it has been noted that the amount of free time does not necessarily imply an improvement in the daily life of workers. This is because it is important

to consider the quality of the activities undertaken and the mentality with which they are carried out: if there are concerns related to other domains, such as not fulfilling work duties useful to one's career, it can lead to feelings of guilt during the use of free time (Timellini, 2021). An ambivalent role also emerged with respect to caring for loved ones, given that, although family commitments can be a stress factor, having children is inversely associated with less centrality of work (figure 2), which, as we have seen, helps to perceive less work discomfort. On the other hand, as far as gender is concerned, it has been noted that women tend to have a lower quality of life, as they are subject to more sources of stress than men. In addition to the above-mentioned increased responsibilities with respect to the care and cleaning of the house, as well as the gender difference in career prospects and the amount of free time, it is known that women tend to devote themselves to domestic tasks that require more time, while men tend to devote themselves to those that require less time (Giudici & Origoni, 2014). Finally, there was also a difference in career and life strategies compared to the classic distinction between "hard" and "soft" sciences. The macro-areas of Architecture and Engineering and especially that of Mathematical, Physical and Natural Sciences tend to perceive a lower centrality of work and a high satisfaction, perhaps thanks to more relaxed work rhythms and better career prospects; these disciplines are in fact characterized by a much higher accessibility to research funds than those available to the macro-area of Social Sciences and Humanities; an example of this is the list of Sapienza departments that have had access to funding for Departments of Excellence 2023-2027, eight of which are related to "hard" sciences and four to "soft" sciences (ANVUR, 2022). Indeed, workers in Social Sciences and Humanities appear to experience a high level of work discomfort, probably linked to the amount of work tasks they have to carry out to face the high competition that derives from the scarcity of funds and therefore from the limited career opportunities. In addition, they are forced to ignore some central life domains due to non-institutionalized aspects of work and this can further affect the dissatisfaction of these figures. Similarly, Health Sciences staff are overwhelmed by the number of job roles they have to fill due to activities related to patient care, in addition to those related to research and teaching. In conclusion, it is possible to observe how, thanks to the analysis of the relationships between life domains, we can detect some resilience strategies adopted by different actors in the university field and how these can be associated with specific job categories or characteristics related to the different disciplinary macro-areas.

Figure 2 – Representation of university field



## Discussion

The daily life strategies adopted can influence the perception of work discomfort. As seen in the previous paragraph, the way in which the academic staff experiences the various domains of life and the relationship that derives from positive or negative interferences can help to bring out some work trajectories. It may be immediately evident that the most structured job categories are also those less affected by work discomfort; however, not all teachers and senior researchers experience everyday life in the same way. On the one hand there are individuals who manage to reduce the predominance of work to make the domain of free time more salient, on the other hand there are strategies in which work is a factor that can make individuals more satisfied and therefore less affected by work discomfort, even though this means making the domestic-family domain and that of free time less central, which can play an important role in increasing or reducing the feeling of discom-

fort. The distinction between these two life trajectories can be attributed to the observation that the former includes individuals who have fulfilled their professional aspirations and do not manifest a willingness to allocate additional resources in the development of their career; while on the contrary, the latter is represented by subjects who find themselves in a state of stalemate, perpetually engaged in a cycle of search for professional gratification, leading to a progressive increase in the importance attributed to work activities. This could be explained by the desire to increase one's "political" status within the department to try to obtain as many resources as possible, or by the continuous search for satisfaction generated by work successes, which, as seen in the literature, can be useful to compensate for gaps deriving from the other domains of experiential life. Another trajectory characterizes those who, due to work, do not have the opportunity to organize their daily lives in a serene or programmatic way; for example, this is the case of the Health Sciences staff that have to fulfil not only teaching and research tasks, but also care activities with patients that are often linked to required availability even during holidays and/or during the night. This condition could make it impossible to devote time to leisure or personal care, with the obvious consequence of a high perception of work discomfort. In addition, such a "forced" life strategy could be cognitively affected by the lack of time for non work-related goals, such as, for example, building a family. In this case, unlike the first two trajectories presented, the choice turns out to be less the result of individual attitudes, and more the result of an organization of personal life imposed by the structure of work itself. Another trajectory characterizing some university workers could be that of individuals who live the academic world as precarious; here too a split can be observed: on the one hand there are those who are not extrinsically and intrinsically satisfied in relation to the work domain and that are also unsatisfied with superiors and colleagues, and therefore, regardless of their work performance, are very affected by work discomfort; on the other hand, there are individuals who feel they are supported by superiors and colleagues, they have understood and accepted the organizational mechanisms and consequently they are less affected by work discomfort. However, these trajectories are both affected by the low structuring of the role held within the university, which makes these individuals more exposed to extra work assignments and a consequent extension of daily working hours; precarious workers, indeed, experience forms of subjugation that mean they cannot assert their needs (Pellegrino, 2015). The competitiveness that characterizes this type of work makes it essential for junior researchers and PhD students to be useful workers in the work organization, to appear more available and efficient than other competitors in order to have more possibilities of obtaining resources useful for their career, for example the renewal of their contract. Finally, as shown by

the sociological history, there are those individuals who are on the margins of the social field, in this case that of the university. These individuals are indeed the ones that have not integrated into the work organization and so perceive a high degree of discomfort. This can make everyday life harrowing, as the absence of work activities, which could be translated into the perception that no one invests in these individuals' career, can transform in negative factors aspects of one's daily life that are typically positive, such as experiencing free time and spending time with loved ones. Individuals in such conditions can indeed experience feelings of guilt or inadequacy, since perceived work failure also influences the evaluation of other activities carried out during the day. These results are useful to understand the validity of the research design and should be considered preliminary with respect to the possibility of future studies with the same investigative objectives. Aiming at reaching a more in-depth understanding of this phenomena, future research should consider other Italian universities and include variables useful for further aspects such as the different organization of research work in the various disciplinary areas, the type of journals on which university workers have the possibility to publish and the time they devote to teaching practice.

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## Appendix 1

Table 7 – First factor extracted by MCA

<b>Factor 1: Centrality of work (26,17%)</b>			
<b>Negative axis: Low salience of work domain</b>			
<b>Active categories</b>		<b>Illustrative categories</b>	
<b>Associated categories</b>	<b>Test-Value</b>	<b>Associated categories</b>	<b>Test-Value</b>
Low strain-based work interference	-20.43	Fairly extrinsically satisfied	-8.40
Low work discomfort	-20.38	Fairly intrinsically satisfied	-7.51
Low time-based work interference	-14.22	Men	-6.11
		Professors	-4.54
		Highly satisfied with superiors	-4.44
		Number of children: 2 to 3	-4.37
		Macro-area: Architecture and Engineering	-3.00
		Work: max 7 daily hours	-2.86
		Work: 8 to 10 daily hours	-2.73
		Need to reduce working hours: no	-2.10
<b>Positive axis: High salience of work domain</b>			
High time-based work interference	14.22	Need to reduce working hours: yes	2.04
High work discomfort	20.38	PhD students	2.30
High strain-based work interference	20.43	Macro-area: Social Sciences and Humanities	2.52
		Fairly unsatisfied with superiors	2.64
		Junior researchers	4.41
		Highly unsatisfied with superiors	4.52
		Fairly unsatisfied with colleagues	4.53
		Number of children: 0	4.98
		Work: more than 10 daily hours	5.67
		Women	5.79
		Fairly intrinsically unsatisfied	7.48
		Fairly extrinsically satisfied	8.29

## Appendix 2

Table 8 – Second factor extracted by MCA

<b>Factor 2: Compensation (20,37%)</b>			
<b>Negative axis: Work alienation</b>			
<b>Active categories</b>		<b>Illustrative categories</b>	
<b>Associated categories</b>	<b>Test-Value</b>	<b>Associated categories</b>	<b>Test-Value</b>
High strain-based DF interference	-22.45	Fairly intrinsically unsatisfied	-4.97
High time-based free time interference	-14.17	PhD students	-3.97
High work discomfort	-12.31	Fairly extrinsically unsatisfied	-2.78
		Fairly unsatisfied with colleagues	-2.59
		DF: 3 daily hours	-2.47
		Free time: 3 to 4 daily hours	-2.46
		DF: more than 3 daily hours	-2.25
		Number of children: 0	-2.16
<b>Positive axis: Well-being derived from working</b>			
Low work discomfort	12.31	Free time: max 1 daily hour	2.14
Low time-based free time interference	14.17	Work: more than 10 daily hours	2.45
Low strain-based DF interference	22.45	Fairly extrinsically satisfied	2.61
		Number of children: 2 to 3	2.61
		Highly satisfied with superiors	3.12
		Professors	3.81
		DF: max 1 daily hour	4.37
		Fairly intrinsically satisfied	4.91

