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ANNUAL FRENCH WORKSHOP ON WELL-BEING IN ASTROPHYSICS : CREATING A POSITIVE AND INCLUSIVE WORK ENVIRONMENT

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Abstract. Diversity is very important within an organisation because it fosters creativity and innovation, but it can occasionally lead to difficulties in understanding others, bias towards colleagues or even discrimination. Here we provide a summary of the ideas discussed during the 2025 French *Well-being in Astrophysics* workshop held at the French National astronomy meeting, which can help promote a positive and inclusive working environment, regardless of age, experience, origin, religion, gender, sexual orientation or disability. These included better understanding colleagues and current problems through a national survey, methods and feedback from mentoring programmes and ideas for preventing conflict.

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1 Diversity in the astronomy and astrophysics community: situation in 2025 and outlook

As a part of the 2025-2030 prospective exercise for the French Astronomy and Astrophysics (AA) community, a dedicated working group conducted a survey to assess the current situation regarding equality, diversity, and inclusion in France. This survey reached individuals across all stages of academic life, from doctoral students and postdoctoral researchers to tenured faculty, research engineers, and technical staff in French AA institutes. The age distribution of respondents was relatively balanced, with representation from under 25 year olds to over 64. Regarding gender, however, we note that despite their documented underrepresentation within the French AA community (25 to 30%), women constituted 41% of respondents. This is a well known phenomenon, where more women than men respond to online surveys e.g. Cull et al. (2005). We present below a summary of the main results, which strongly echo the study made in Webb et al. (2021).

1.1 Experiences of inequality and discrimination

A major outcome of the survey is the prevalence of discrimination within the AA community, with roughly 20% of respondents experiencing some form of discrimination. Only 42% of respondents reported never experiencing inappropriate or discriminatory behavior in their work environment.

Gender-based discrimination: Women remain disproportionately affected by gender-based discrimination. 80% of women indicated that they had been subject to sexist behavior at least once in their workplace. Around 50% of women reported that they experienced such behavior regularly. 20% of female respondents reported sexual misconduct, including harassment, aggression and assault. The results indicate a trend of increasing exposure with career stage. However, most concerning was that for the most recent gender-based violence (< 5 years, and including at least one case of rape), all victims were young females with temporary positions.

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Disability: 7% of respondents declared a disability, but only half are officially recognized as such (RQTH, Reconnaissance de Qualité de Travailleur Handicapé). These colleagues are represented in all age classes, career stages, and type of work. Many respondents highlighted the negative impacts of their disability on their career progression. As in other public sectors, these self-reported career delays are pronounced and well-documented for this group. Disabled colleagues also reported increased administrative burdens, the lack of adapted tools, and insufficient or ineffective support for their mission support.

Neurodiversity: 11% of respondents self-identified as neurodivergent (16% were unsure if they are neurodivergent). 65% of these respondents declared that being neurodivergent had an impact on their work and career. Some considered this an asset, but many reported barriers in communication, methodology, and career opportunities, such as participating in selection/evaluation committees. The impacts are nuanced, but institutional recognition and adaptation remain extremely limited.

Socio-economic background: the French AA community appears poorly diverse when it comes to socio-economic backgrounds, with the majority of colleagues coming from more advantaged backgrounds. The under-representation of less privileged socio-economic backgrounds in higher education pathways feeding into AA research is indeed well documented. Respondents from less privileged circumstances described cumulative disadvantages: lack of cultural capital, reduced confidence, limited access to networks, and financial obstacles. Many reported self-censorship or an orientation toward "default" academic tracks, restricting their progression into competitive research pathways. Relocation for studies was frequently required but not always possible, sometimes leading to compromised career choices.

Nationality and immigration: the French AA community lacks diversity, with only 16% not born with French nationality. The majority of those colleagues hold a postdoctoral position. They reported integration challenges, especially regarding complex administrative procedures and limited support for non-French speakers. They also reported a lack of inclusivity in everyday work interactions (e.g., informal discussions, meals...).

LGBTQIA+: Twelve percent of respondents identified as part of the LGBTQIA+ community. Among them, 85% reported discomfort in openly sharing their identity, and 90% had no access to specific and dedicated support structures. Respondents described their work environment as socially constrained and sometimes detrimental to performance and mental health. Around 75% of respondents reported they experienced homophobia at least once in their work environment, $\sim$30% regularly. A significant fraction (20%) reported experiences of gender-based violence, harassment, or aggression. Overall, the survey points to a lack of consideration for the LGBTQIA+ community, with negative impacts on mental health and career progression.

1.2 Work-Life Balance and Professional Constraints

Work-life balance has recently become a critical concern, in particular for increasing the representation of women in science. Indeed, parental responsibilities significantly affect career progression, particularly for women. In the survey, over 80% of parents reported adjustments to their work routines, including reduced travel opportunities (for scientific conferences, workshops, etc), modified schedules, or increased reliance on part-time arrangements (especially for women). Women were more likely than men to renounce professional opportunities such as international projects, thesis supervision, or committee service due to childcare.

About 10% of respondents reported being caregivers for dependents, including elderly or disabled family members. This responsibility was relatively equally distributed between men and women. Respondents reported a negative impact on their workload and career progression, similar to parents. 35% of respondents declared that they would have to take this type of responsibility in the next 5-10 years.

Overall, stress, anxiety, and psycho-social risks are increasingly reported, with one third of respondents describing their current work-life balance as "unbalanced" or "highly unbalanced", but see Section 3.

1.3 Outlook

The results of the survey made as a part of the 2025-2030 prospective exercise highlight that inequalities emerge early, from primary school through higher education. Social background, gender norms, and stereotypes heavily influence academic choices, reducing diversity in AA. The under-representation of women, minorities, and disadvantaged groups persists throughout higher education and into research careers in the French AA community. This needs to be addressed at a structural level to ensure that bright minds can access AA careers and thrive in a respectful and inclusive work environment, to generate scientific creativity and discoveries. The working group thus proposed the following recommendations to be implemented in the near future:

1. Broadening the diversity of profiles: Strengthen outreach initiatives in schools, targeting disadvantaged areas, rural populations, and students with disabilities. Ensure equitable access to internships at key stages of secondary education.
2. Recruitment and evaluation: Continue enforcing parity in national hiring processes and integrate qualitative criteria into candidate evaluations to value diverse methodologies and experiences. Training against subconscious bias and stereotypes should be mandatory for evaluators.
3. Workplace: Establish explicit policies supporting minorities, accompanied by mandatory, repeated training on discrimination and gender-based violence. A strict zero-tolerance approach to inappropriate behavior is essential. INSU/AA equality representatives should have their roles recognized and reinforced.
4. Monitoring and sustainability: Regular monitoring through annual indicators is required. Dedicated surveys should continue, notably on disability, LGBTQIA+ issues, and racism.

The French AA community stands at a critical juncture: while awareness of inequalities has grown, their persistence calls for systemic reforms. Structural barriers rooted in social origin, gender, nationality, or identity undermine inclusiveness and hinder the field's ability to thrive. While we recognize that the AA community by itself cannot tackle these issues at a population level, we can lead by example and improve the representation of minorities, and also create an environment where all individuals can flourish. Achieving this vision will require coordinated actions, continuous evaluation, and a firm commitment to equity and diversity.

2 Mentoring programmes

Transition periods in scientific careers are especially challenging for young women, who often struggle with a lack of female role models, support, and recognition. This discourages many from continuing in science after their PhD. To address these issues, mentoring programs have been developed across Europe and the USA (McCook 2011, Wutte 2007) pairing experienced mentors with mentees to provide guidance, advice, and encouragement. Since 2015, the French association *Femmes & Sciences* has run a mentoring program offering a support network, workshops and group meetings to help young female scientists navigate their careers (Batut et al. 2021). While general mentoring guidelines exist (Kenny et al. 2017; Lee et al. 2007) there is no established collective method for building effective mentor-mentee relationships. To fill this gap, the CBI PhD Program (Toulouse, France) and *Femmes & Sciences* has organized a yearly one-day workshop based on collective intelligence (Foncy et al. 2023). This workshop aims to:

- Create a shared understanding of mentoring principles and expectations.
- Foster trust and communication through interactive exercises and discussions.
- Define clear goals, roles, and ethical frameworks for mentor-mentee pairs.
- Build a sense of community and cohesion among participants.

The workshop uses collective intelligence to enable groups to collaboratively solve problems, make decisions, and generate ideas, ultimately strengthening mentor-mentee relationships and supporting the professional growth of young female scientists.

2.1 Mentor and mentee participant characteristics and pairing

Every year, the Toulouse *CBI-Femmes & Sciences* mentoring program supports 30 mentor-mentee pairs (60 participants) through 11 events from September to July. Registration occurs in October, with program introductions in November and a first group meeting in December. Participant demographics:

- Gender: 70% women, 30% men (both mentors and mentees).
- Fields: 75% in health sciences, 10% in agri-food/environmental sciences, 15% in space sciences.
- Mentees: Mostly first-year PhD students (53%), with 27% in their second year and 20% in their third.
- Mentors: Primarily researchers (53%) and assistant professors (22%), with some more senior staff (13%) and industry professionals (12%).

Preparation & Pairing: Before meeting, participants choose three descriptive keywords. Common themes include curiosity, open-mindedness, and determination for mentors, and curiosity, attentive, and fun for mentees. After brief exchanges, mentees select five preferred mentors, and the coordinator finalizes the pairings.

2.2 Mentor-Mentee collective intelligence workshop structure

2.2.1 Collective Intelligence principles

For collective intelligence to thrive, certain key practices and principles must be upheld. These include:

- Diversity: A group's strength lies in the variety of its members' knowledge, skills, experiences, and viewpoints. Greater diversity fosters more innovative ideas and effective solutions.
- Inclusion: Every participant should feel valued, respected, and included. This encourages full engagement and the free exchange of ideas, leading to better collective outcomes.
- Open Communication: Transparency and openness are vital. Members should feel safe to share thoughts and opinions without fear of criticism, supported by clear communication channels.
- Collaboration: Active teamwork is essential. This means listening attentively, building on each other's ideas, and finding common ground when needed.
- Participatory Decision-Making: Decisions should reflect the input of all members. Techniques like consensus-building, voting, or consent-based approaches help achieve collective agreement.
- Critical Reflection: Constructive questioning of ideas is encouraged. This ensures thorough evaluation, reduces bias, and improves the quality of decisions.

When these principles are applied, collective intelligence can yield outstanding results in creativity, problem-solving, and decision-making. The workshop was designed based on these fundamental principles.

2.2.2 Workshop structure (Mentor-Mentee Day workshop)

The mentor-mentee experience begins with a day to cement their connection. The workshop promotes collective intelligence, includes group exchanges, speaking with intention and valuing silence. Participants refrain from passing judgement and all ideas are welcomed. A facilitator and simple keywords help build trust and define a common goal, encouraging participants to challenge their preconceptions and adopt a collective awareness.

Building Cohesion & Common Ground Activities that foster group cohesion, such as sharing ideas and meals take place. The morning focuses on getting to know each other and creating a shared understanding of mentoring. Using the Nonaka process (individual reflection, paired exchanges and group sharing), participants explore questions like:

- How do I feel today?
- What do I expect from this workshop ?
- What will I contribute?

This process helps individuals express themselves, move from personal to collective perspectives, and ensure equitable participation.

Clarifying Mentoring Roles & Expectations After a brief theoretical introduction they use a holomorphic daisy exercise to address:

- What is the purpose of mentoring ?
- What are the roles and commitments of mentors and mentees?

This allows individual insight to become collective knowledge, establishing a common framework and empowering all members.

Defining the Mentor-Mentee Relationship In the afternoon, pairs focus on their relationship's framework. Through individual reflection and paired discussions, they explore:

- What do I need for a good relationship?
- What do I want from our partnership?

This process clarifies personal needs and expectations, resulting in a shared understanding of the pair's purpose, commitments, and roles—visualized in keyword clouds. Key themes include sharing, support, long-term connection, and a safe environment, as well as commitment, respect, involvement, and confidentiality.

Ethics & Practical Tools Participants then draft a code of conduct for their relationship, reflecting on rights and duties. The facilitator reviews the program's ethical charter, ensuring everyone understands its importance. Practical tools, such as the pedagogical (Friesen & Osguthorpe 2017) and drama triangles (Karpman 1968) are introduced to help navigate challenges.

Feedback & Recognition The workshop concludes with a focus on feedback and recognition. Participants learn to give and receive verbal and non-verbal signs of recognition, both positive and constructive. They practice by answering: What did I appreciate about you or your work today that will help our relationship?

Closing Reflection The day ends with a *declusion* phase, where each person shares:

- How do I feel now?
- What did I take away from today?
- How have my expectations and needs evolved?

This final reflection solidifies the day's insights and prepares participants for their mentoring journey.

2.3 Conclusions

Upon completion of the workshop, participants are asked to fill out an evaluation form. The responses indicate that almost all participants reported a high level of satisfaction, as well as with the facilitation methods used. Additionally, they expressed strong appreciation for both the content and the teaching approach.

The workshop serves as the initial point of engagement in the mentor-mentee relationship and introduces foundational mentoring tools. A key conceptual framework presented is the drama triangle, with a particular focus on the role of the mentor. Rather than adopting the position of a rescuer, the mentor is framed as an experienced individual who offers both protection and permission, thereby enabling the mentee to develop autonomy and agency in their decision-making processes. A second core tool introduced is the use of feedback and recognition as mechanisms for support and developmental affirmation.

These elements facilitate the co-construction of the mentor-mentee relationship within a framework grounded in trust, mutual respect and a shared commitment to growth. Discussions during the workshop highlighted that including male doctoral students in the programme better enables them understand their female colleagues.

3 Avoiding conflict between colleagues

Several realistic workplace situations were discussed that could lead to conflict, depending on the perception of one or both parties. Solutions were proposed to anticipate and avoid conflict. These are listed below.

Frequent absence of colleagues in the work place: There are many valid reasons why a colleague may be frequently absent from the work place, such as working from home, which can be more efficient due to no travel time, regular work trips, illness or caring duties. However, this can become problematic if a colleague is frequently absent, either because they feel like it is their right to work at home as they wish or they feel like it has no impact on other colleagues that are present in the work place. Those that are frequently present in the work place *can* feel abandoned, or feel that the absent colleague is not pulling their weight or getting the work done, or that it is more difficult to have an informal chat about work that could help diffuse a situation that may become problematic. The absences may also have an impact on team cohesion, especially if some team members are not allowed to work from home. These situations can be avoided if the absent colleague keeps team members informed of their absences and if possible, explains the reason for the absences. Regular meetings can and should still take place via video-conference, even just to exchange informally about recent progress. These meetings could take place at a fixed time, so that everyone knows to keep the time-slot free.

Sending email out of traditional work hours: We frequently receive email out of traditional working hours as many of us have colleagues that work in different time zones, and thus these emails cannot be avoided. However, we also receive email from colleagues in the same time zone that work late or at weekends. Both situations *can* make you feel that you should respond immediately, even though you have already worked a full week and need time to relax. It can add to your mental load if you do read the email, but choose not to reply, making it difficult to relax. It is conceivable that occassionnally, a situation may arise where you feel that you could respond out of hours, but this should not become the norm. Anticipating upcoming deadlines can help to limit the number of times such as situation may arise. Optimising work time to stay on top of deadlines and holding efficient meetings with an agenda and that stick to the time allocated can also help to limit emergencies. Likewise, it is preferable not to sollicit colleagues in the same time zone out of hours. Unfortunately there are colleagues that expect you to respond rapidly at any time they choose to send you a request. Ideally you should avoid getting into the habit of constantly responding out of hours. You can inform the colleague of your availability to respond and/or have an automated out of hours/on holiday response to incoming email, explaining when you will next be available to read email. Try not to set deadlines that are at midnight, but towards the end of the working day and encourage colleagues to do the same. Should you choose to send emails late/at weekends, you can use email clients to programme them to be sent at the beginning of the next working day, so that your colleagues do not feel sollicited outside of working hours.

Giving your personal telephone number to a colleague: Different colleagues have different views on sharing personal telephone numbers to be used in a work scenario. It can be useful for emergencies and some colleagues find social media outlets practical for some exchanges and this can work if everyone is in agreement. However, a colleague should not feel pressured into providing a personal telephone number and can remind other colleagues that there are many professional platforms that can be used to exchange (email, slack-like facilities, etc) and also that there are rules around data protection.

Dealing with a manager/supervisor that puts pressure on a colleague to move forward more quickly: A superior may pressurise a colleague to work more/faster. This request may be set out in a realistic manner with realistic objectives, which can be stimulating and the colleague may feel like they are being given support and helped with the project. However, problems arise when the superior becomes inflexible, becoming deaf to issues that could hamper the advancement of the project. Alternatively, the superior may assume that the colleague is not working, when in reality they may be working out of hours to achieve the work requested. These assumptions can cause the colleague to feel that the superior thinks badly of them and that they are being put under pressure or even harassed. It is important to remember that working slowly does not mean working badly. To avoid situations of conflict, discussing the objectives, timelines and anticipated problems with everyone involved can help. Try to understand the situation from the colleague's point of view and get to know people's limits. Be clear about what you can and cannot do, ensure that you anticipate and take weekends and holidays, ask for help when needed or better still, identify problems and find solutions collectively.

Commenting on personal aspects (clothing, outside-work activities/attitudes, sexual orientation, gender, ...): Comments may be made that were thought to be harmless, but they could make a colleague uncomfortable. It is important to take into account other people's feelings. We often hear, 'It was just a joke!', 'Don't take it seriously!' or 'It's just small talk!', but if these phrases need to be said, it is likely that the remark has caused some harm. Worse still, some people feel like it is their place to judge or to criticise openly. Nobody should have to accept remarks about their person in the workplace and it is important to point out if a remark is felt to be unkind. If you do not feel like you can tell the person(s) who made the remark directly, confide in a colleague who may be able to relay the information. Ideally everyone in the workplace should have some training to better understand the limit between colleagues.

Work-life balance: Work and life can be thrown off-balance if the lines between the two become blurred or if one is encroaching on the time allocated to the other, i.e. working a 70 hour week or constantly taking personal phone calls during the workday. Problems can arise if a colleague prefers to work during the latter part of the day, whereas their team members are all working much earlier on, which may lead to conflict. Again discussion is important here to avoid escalation of the situation. It is important to remind colleagues of the working hours stipulated in the workplace and ask them to try to adapt to working collectively, whilst still taking into account their preferences. Say 'no' to some requests to limit a work overload and work-time spilling into daily life and anticipate deadlines to avoid periods of overwork. Everyone is different and has their own way of finding work-life balance, but it should not become detrimental to anyone's health.

These are just some suggestions. Whilst sometimes difficult, open discussion is often key to avoiding conflict.

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