Analysis of the questionnaires of PhD students and PhDs

2025 Valuation

Questionnaire on the satisfaction of first and second year PhD students

1. PhD in Engineering | Cycle XXXIX

Number of questionnaires: 10

1.1. Section A

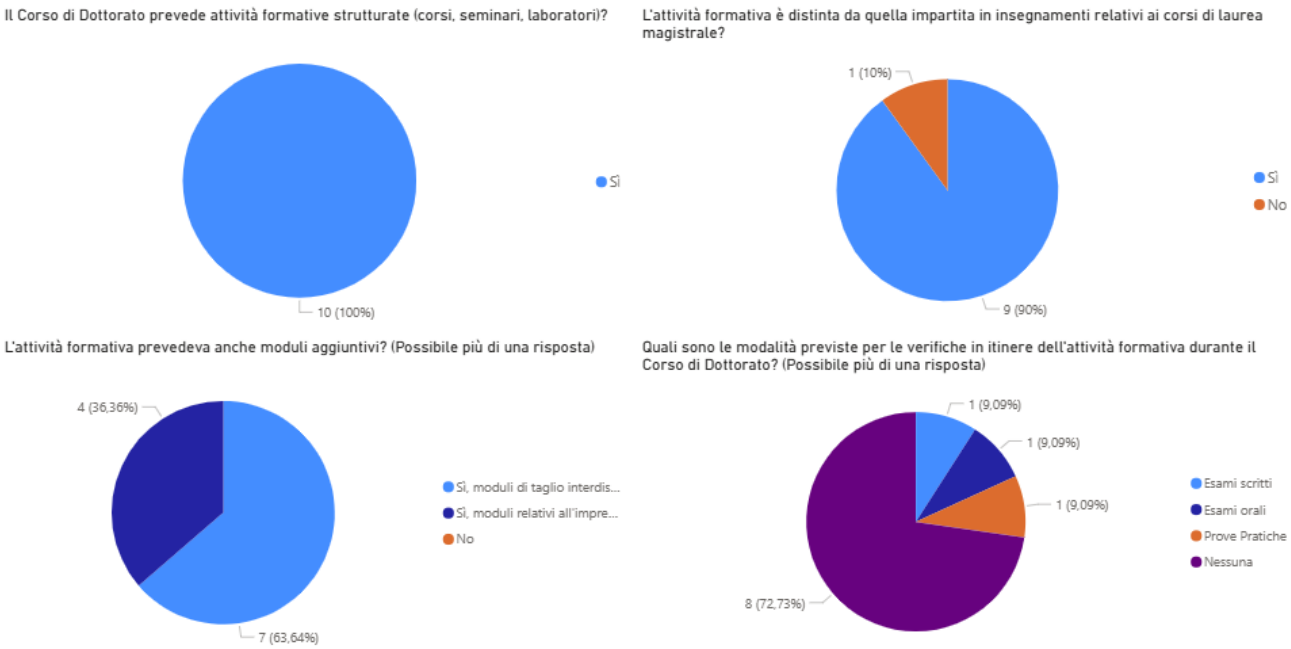

Figure 1. Section A, page 1.

Figure 1 shows the results relating to the perception of PhD students of the XXXIX cycle regarding the structure of the training activity of the PhD Course in Engineering. The four graphs illustrate complementary aspects that allow us to outline an overall picture of the clarity, quality and articulation of the training offer.

Firstly, the graph dedicated to the presence of structured training activities shows a unanimous result: all PhD students (100%) confirm the presence of courses, seminars and laboratories, testifying to the solidity and organization of the training program. This figure represents one of the greatest strengths of the educational offer.

The second graph shows that the majority of respondents (90%) perceive the educational activity of the doctorate as distinct from the teaching of the master's degree courses, while only 10% note a partial overlap. Although the result confirms that the course is generally recognized as adequate for the advanced level required by a third-level program, the presence of even a small share that identifies overlapping elements signals a possible area for improvement, especially in ensuring greater methodological and content differentiation compared to second-level training.

The third graph concerns the presence of additional modules: 63.64% of PhD students indicate modules of an interdisciplinary, multidisciplinary or transdisciplinary nature, while 36.36% also indicate modules dedicated to entrepreneurship, competitive funding and the development of transversal skills. No respondent indicates the absence of such modules, highlighting an overall enriched training offer. However, the uneven distribution between paths suggests a criticality linked to the non-homogeneity of access to supplementary modules, which could be mitigated through a more coordinated and transversal planning between the different curricula.

Finally, the fourth graph shows the assessment methods provided for the training activity: the most frequent type is represented by practical tests (72.73%), while written and oral tests are marginal (both at 9.09%). A further 9.09% of doctoral students declare that they have not carried out any verification. This trend confirms a prevalence of practice-oriented evaluation approaches, consistent with the experimental nature of the course, but at the same time signals a variability between courses and activities that could compromise the homogeneity of the evaluation criteria and the overall coherence of the training system.

Overall, the figure shows a generally positive picture, with a training offer perceived as structured, distinct and enriched. At the same time, some critical issues emerge relating to the differentiation from master's degree teaching, the uneven distribution of supplementary modules and the variety of assessment methods, aspects that represent potential areas for improvement for future cycles.

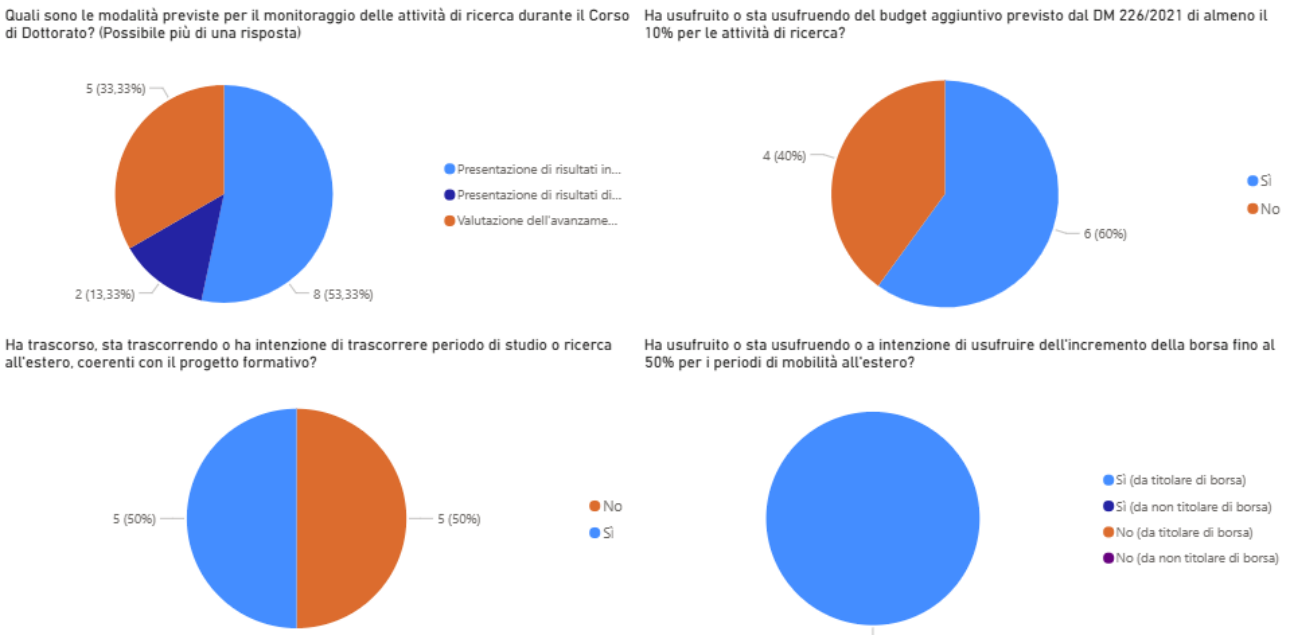

Figure 2. Section A, page 2.

Figure 2 presents the results relating to the methods of monitoring research activities and the use of mobility opportunities and budgets for PhD students of the XXXIX cycle. The four graphs offer an overview of supervision practices, study abroad experiences and the use of economic resources dedicated to research.

As regards the monitoring of research activities, the first graph shows that the most common method is the presentation of individual results (53.33%), followed by the evaluation of the progress of the thesis work at the end of the year (33.33%). Only 13.33% of respondents indicate the presentation of group results. This suggests an overall effective monitoring system, but highlights a potential criticality in the scarce diffusion of collegial moments: the limited presence of group presentations can in fact reduce interdisciplinary discussion and the involvement of the community of doctoral students, important elements for scientific maturation. In this regard, we are trying to give new impetus to the Dott-Eng Days for first- and second-year doctoral students.

The second graph concerns the use of the additional 10% budget provided for by Ministerial Decree 226/2021: 60% of doctoral students say they have used it, while 40% have not. Although the share of users is significant, the figure reveals a possible area for improvement in communication or in the accompaniment to the use of these resources, considering that the budget is specifically intended to enhance research activities.

The third graph highlights a further area of attention: only 50% of respondents have carried out, are carrying out or plan to carry out a period of study or research abroad, despite the fact that this experience represents a qualifying element of doctoral courses. The other half of respondents are not planning any international mobility, which may reflect both project constraints and organisational or

personal obstacles. In any case, this indicates a criticality in the dissemination of international experiences, which could be addressed with dedicated support actions.

The fourth graph shows a fully positive figure: all PhD students holding a scholarship (100%) declare that they want to take advantage of the increase of up to 50% of the scholarship for mobility periods abroad. This confirms a strong interest in additional funding opportunities. However, the lack of responses from non-scholarship holders, while understandable, reflects the persistent asymmetry between funded and unfunded pathways, which can limit access to mobility opportunities.

Overall, the figure paints an overall positive picture, with structured monitoring and significant use of available resources. However, some critical issues emerge: the limited frequency of collegial moments of scientific discussion, the uneven use of research budgets, international mobility still present in only half of the sample and the difference in opportunities between PhD students with and without scholarship. These are elements that, while not compromising the overall quality of the path, suggest possible areas of improvement to be considered in future cycles.

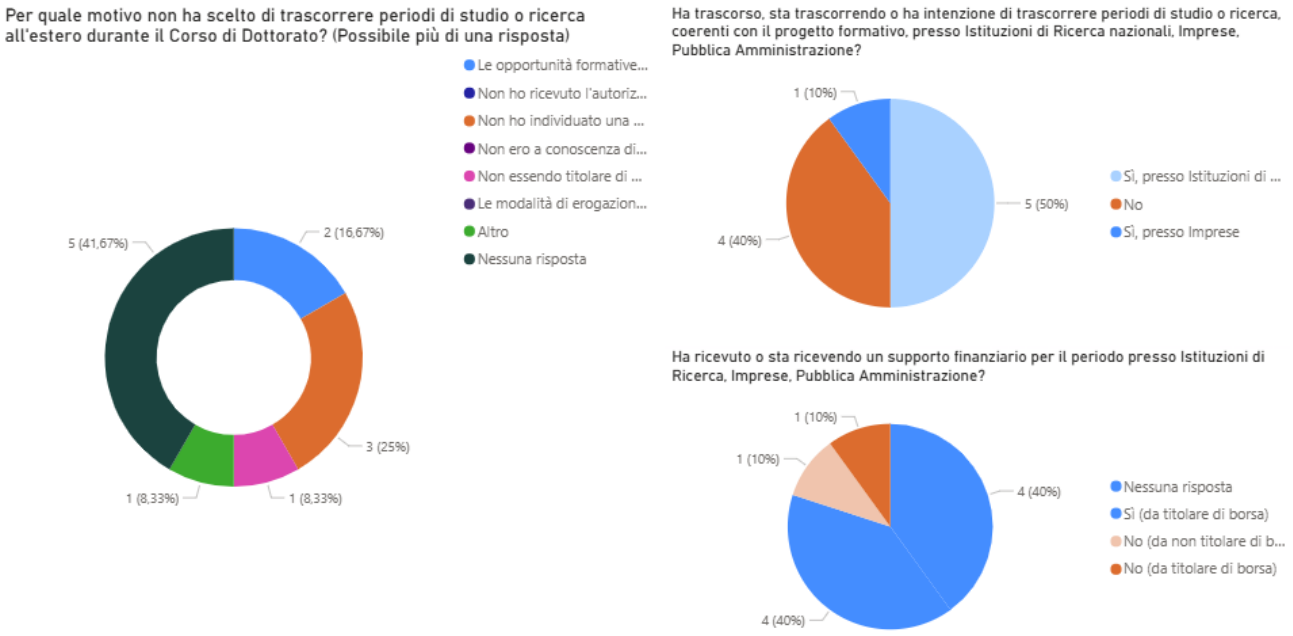

Figure 3. Section A, page 3.

Figure 3 explores the reasons that led some PhD students not to carry out periods of study or research abroad and provides information on the destination of any mobility and the financial support received. The data offer useful elements to assess both the real diffusion of international experiences and the barriers that prevent their wider participation.

The first graph analyzes the reasons why some PhD students did not choose to spend periods abroad. The most frequent answer is represented by "no answer" (41.67%), which is a first possible criticality, since it indicates a certain difficulty or reticence in declaring the real reasons. Among the explicit answers, the lack of identification of a host structure (25%) and, to a lesser extent, the perception of

an already adequate internal training offer (16.67%), the lack of dedicated funding for non-scholarship holders (8.33%) or personal reasons (8.33%) stand out. A residual share (8.33%) attributes the lack of mobility to methods of disbursement of funding that are not considered sufficient. These elements, taken together, highlight a set of heterogeneous barriers, some of which are structural (difficulty in finding host institutions, lack of funds for non-scholarship holders) and others related to communication or accompaniment in the mobility planning phase.

The second graph shows that 50% of doctoral students have carried out or plan to carry out a period of mobility in research institutions, while 40% have no experience or intention in this regard, and a further 10% have carried out or intend to carry out mobility in companies. Although the data relating to research institutions is encouraging, the overall percentage of those who have not planned activities abroad remains significant, representing an important critical issue for achieving a full internationalization of the path.

The third graph concerns the financial support obtained for activities carried out at research institutions, companies or public administrations: 40% of respondents declare that they have received funds (as scholarship holders), while 40% have not received any funding and a further 10% were not scholarship holders. The remaining 10% do not provide an answer. This picture highlights an uneven approach to funding, which in some cases can be a real obstacle to participation in mobility experiences, especially for PhD students who do not hold a scholarship.

Overall, the figure highlights a set of information that confirms the presence of mobility experiences, even relevant ones, but at the same time shows some significant critical issues: the lack of identification of host structures, the difficulty of accessing funding for non-scholarship holders, a level of internationalization that is still not uniform and a substantial share of missing answers that makes it difficult to fully interpret the real reasons for the absence of mobility. These are elements that, while not compromising the quality of the training course, suggest areas for improvement for the enhancement of international mobility in subsequent cycles.

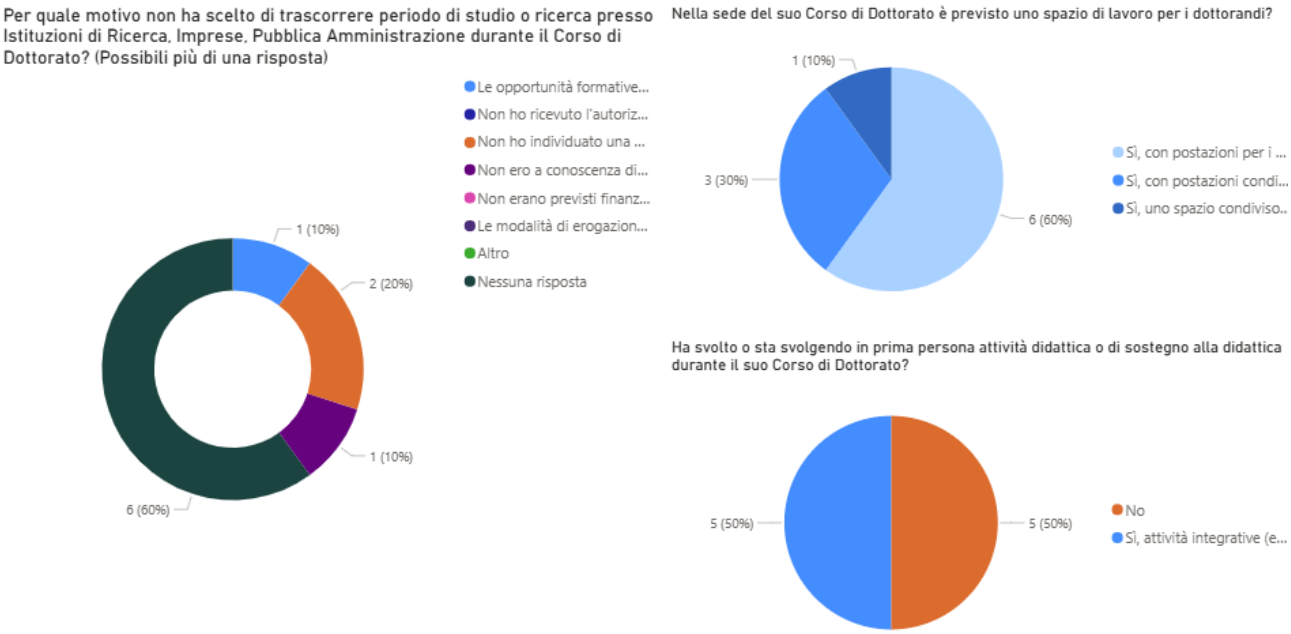

Figure 4. Section A, page 4.

Figure 4 explores three aspects relevant to the quality of the doctoral experience: the reasons that prevented the carrying out of study or research periods at research institutions, companies or public administration; the presence of workspaces dedicated to PhD students at the course venue; and involvement in teaching or teaching support activities.

The first graph highlights the reasons stated by those who have not carried out external research periods. The most frequent answer is "no answer" (60%), which is a significant criticality, as it makes it difficult to clearly identify the real causes of lack of mobility. Among the explicit answers emerge the failure to identify an adequate host structure (20%), the perception that the internal opportunities were already sufficient for their path (10%) and the lack of knowledge of the possibilities offered (10%). These elements, together with the low percentage of structured responses, suggest possible gaps in the communication, accompaniment and orientation of PhD students with respect to opportunities for external collaboration.

The second graph concerns the availability of workspaces at the headquarters of the PhD Course. 60% of respondents declare the presence of dedicated individual workstations, while 30% indicate the presence of shared workstations and 10% a shared space without assigned workstations. The overall figure is positive, since most doctoral students have a stable and equipped workplace. However, the presence of a share that has only shared or generic spaces signals a potential criticality related to the heterogeneity of spaces, which could be reflected in the comfort and continuity of daily research activities.

The third graph analyzes the involvement in teaching activities. The results show a perfect balance: 50% of PhD students carry out or have carried out supplementary teaching activities (exercises, seminars or tutoring), while the remaining 50% did not participate in these activities. While the figure

confirms the presence of educational opportunities for a substantial part of the sample, it also points to a critical issue in equitable access to teaching experiences, which constitute an important educational element also in view of possible academic careers.

Overall, the figure highlights positive elements, such as the good availability of workstations and the opportunities for supplementary activities, but also highlights significant critical issues: the lack of transparency in the reasons for lack of mobility, the difficulty in finding host facilities, the not always adequate knowledge of opportunities and an uneven distribution of teaching activities among doctoral students. These aspects constitute potential areas for improvement that could be addressed with targeted interventions in subsequent cycles.

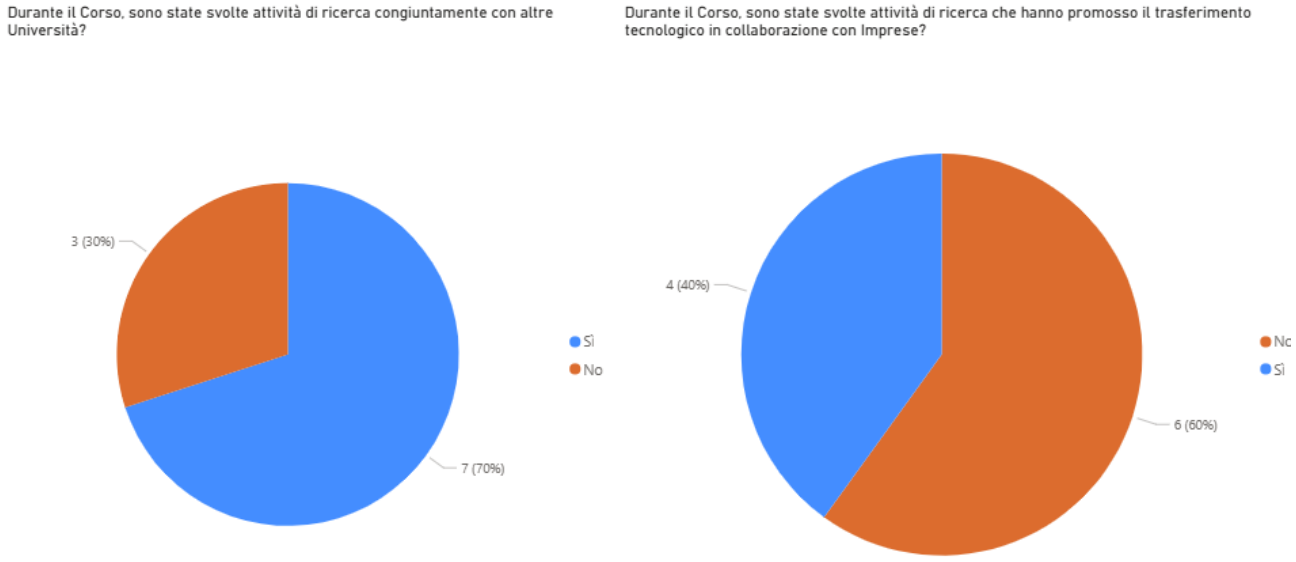

Figure 5. Section A, page 5.

Figure 5 shows the results related to the performance of research activities in collaboration with other universities and companies, two essential aspects to assess the degree of openness of the PhD towards national and international scientific networks and towards the world of production.

The first graph shows that 70% of doctoral students have carried out research activities jointly with other universities, while 30% have not had such experiences. The figure is positive overall and indicates a good level of integration with other academic institutions. However, the presence of a non-negligible share (30%) who did not have any type of inter-university collaboration signals a potential criticality related to the heterogeneity of opportunities, which seem not to be evenly distributed among all PhD students. Greater structuring of collaborations could ensure that a larger number of students have access to external research networks.

The second graph highlights a more critical picture regarding the relationship with the productive world: only 40% of doctoral students have carried out research activities oriented towards technology transfer in collaboration with companies, while 60% have not had this opportunity. This result suggests that the activities of interaction with companies, although present, do not yet represent a

fully consolidated component of the training path. The prevalence of negative responses can be interpreted as a structural criticality, probably linked to the uneven availability of industrial projects, the nature of some more theoretical lines of research or the lack of a coordinated direction that systematically favors the involvement of the productive fabric.

Overall, the figure shows a good openness to the external academic world but highlights a suboptimal level of interaction with companies, a crucial aspect in light of the aims of the innovative doctorate and the growing importance of technology transfer. Strengthening partnerships with companies and making collaborations more systematic could contribute to more comprehensive training aligned with the current needs of the research and development market.

1.2. Section B

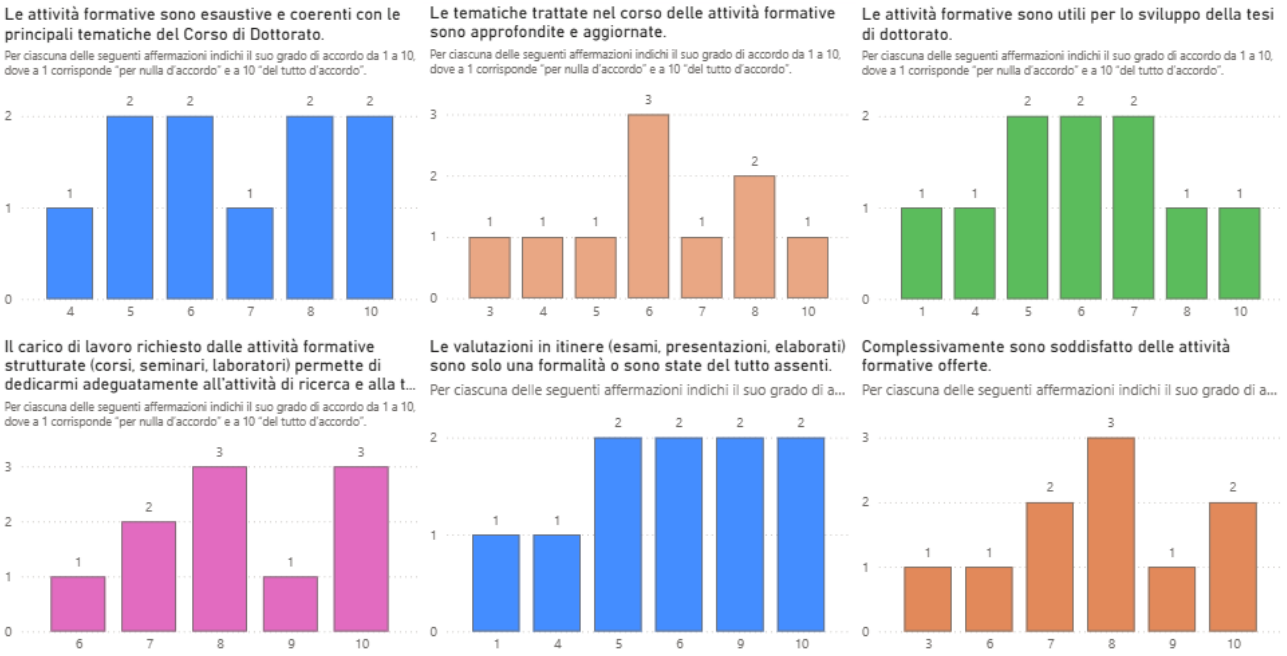

Figure 6. Section B, page 1.

The figure in Section B, page 1, collects six histograms that describe the degree of agreement of doctoral students with different statements related to the quality and impact of training activities. Responses are expressed on a scale of 1 to 10, with 1 being "strongly agree" and 10 "strongly agreeing." Overall, valuations show a generally positive perception, although they highlight some areas of concern.

The first graph, relating to the fact that "the training activities are exhaustive and consistent with the main topics of the PhD Course", presents values between 4 and 10, with a distribution that sees only one answer equal to 4 and most of the scores concentrated between 5 and 8, as well as two maximum evaluations equal to 10. This trend indicates that PhD students perceive the activities to a large extent

as relevant and overall well aligned with the objectives of the Course, while leaving some room for improvement in terms of completeness for a small part of the sample.

The second graph considers the statement that "the topics covered during the training activities are in-depth and updated". The assessments are distributed between 3 and 10, with a prevalence of the values 6–8, but with the presence of individual answers equal to 3, 4 and 5. This suggests that, although the majority recognizes a good level of in-depth study and updating, there is a minority that perceives the activities as only partially adequate with respect to the state of the art or their expectations, highlighting a criticality linked to the non-homogeneity of the perception of the contents.

The third graph concerns the usefulness of training activities for the development of the doctoral thesis. Responses range from 1 to 10, with a distribution of a single minimum rating of 1, a minimum rating of 4, and a higher number of scores ranging from 5 to 7, as well as individual ratings of 8 and 10. Overall, the trend is positive, but the presence of very low values indicates that for some PhD students the educational offer is not sufficiently integrated with their research path, representing an important area of attention in terms of personalization and coherence between training modules and thesis projects.

The fourth graph analyzes the statement "the workload required by structured training activities allows me to devote myself adequately to the research activity and the thesis". In this case, the evaluations are all between 6 and 10, with a clear concentration on the highest values (8, 9 and 10). This signals a decidedly positive result: the teaching load is perceived as compatible with the research activity, without the training activities being experienced as excessively burdensome or penalizing with respect to the development of the thesis.

Particularly significant is the fifth graph, which assesses the degree of agreement with the statement "ongoing evaluations (exams, presentations, papers) are only a formality or have been completely absent". Since this is a formulation in the negative sense, high values indicate a critical judgment. The answers are distributed between 1 and 10, with a single minimum evaluation of 1 and one equal to 4, but with most of the scores between 5 and 6 and, above all, with four overall answers on values 9 and 10. This trend highlights a marked criticality: many PhD students perceive the tests as insignificant or poorly structured, confirming what also emerged in Section A with respect to the heterogeneity of the evaluation methods.

Finally, the sixth graph, relating to the statement "overall I am satisfied with the training activities offered", shows values between 3 and 10, with only one evaluation equal to 3, one equal to 6, two equal to 7, three equal to 8, one equal to 9 and two equal to 10. The concentration of scores in the 7–10 range indicates a high average level of overall satisfaction, while the single very low rating

indicates the presence of an isolated case of dissatisfaction, which could be linked to specific individual experiences.

Overall, the figure outlines a basically positive picture: the training activities are perceived as consistent with the topics of the Course, overall useful and with an adequate workload. However, some significant critical issues emerge: the not entirely uniform perception of the in-depth study and updating of content, a share of doctoral students who do not consider the activities fully useful for their thesis and, above all, the strong feeling that ongoing evaluations are often formal or poorly structured. These elements represent important areas for improvement to further increase the perceived quality of the training offer in subsequent cycles.

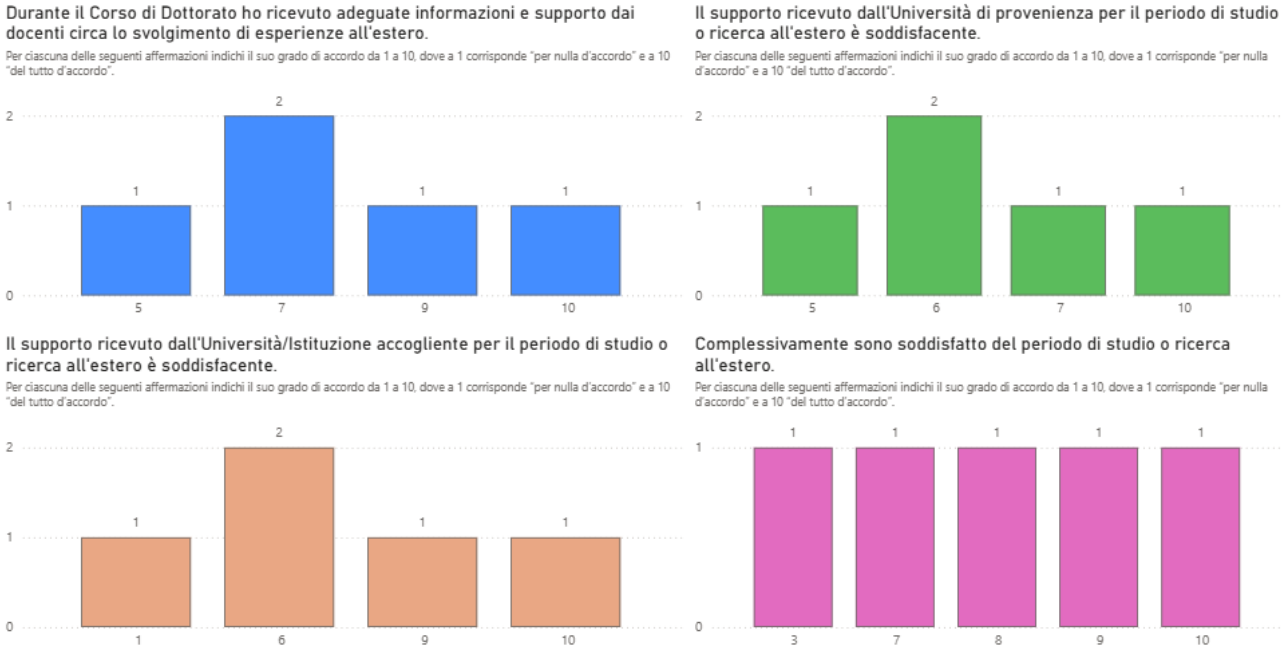

Figure 7. Section B, page 2.

The figure relating to Section B, page 2, analyzes four aspects related to study or research experiences abroad: the information and organizational support received by the professors of the Course, the support of the University of origin, that of the host institution and the overall satisfaction with the period spent abroad. In all cases, the ratings are expressed on a scale of 1 to 10.

The first graph, relating to the information and support provided by the teachers of the Course, shows evaluations between 5, 7, 9 and 10, with a prevalence of the score 7 (2 answers). No PhD student assigns values lower than 5, which indicates an overall positive judgment: the support is perceived as at least sufficient and often good or very good. However, the presence of an answer on the minimum value 5 signals a moderate criticality, suggesting that not all PhD students have experienced the same level of accompaniment towards international mobility.

The second graph, which concerns the support received from the university of origin, presents evaluations distributed on values 5, 6, 7 and 10, with a concentration on 6 (2 answers). Also in this

case, the judgment is generally positive, but the absence of a greater concentration on the highest scores and the presence of a rating of 5 indicate that the administrative and organizational processes are perceived as adequate but not fully optimal, suggesting room for improvement in the clarity of the procedures and the speed of the support provided.

The picture that emerges from the third graph, relating to the support received from the host university or institution, is more diversified: the evaluations range from 1 to 10, with values 1, 6, 9 and 10. The presence of a response of 1 is a significant criticality, as it indicates an experience perceived as completely unsatisfactory from the point of view of local support. At the same time, the presence of very high scores (9 and 10) highlights that, for other PhD students, the support offered by the host institution has been excellent. Overall, the graph highlights a strong heterogeneity between the different destinations, which suggests the opportunity to select and monitor more carefully the foreign structures with which collaborations are activated.

Finally, the fourth graph shows the overall satisfaction with the period of study or research abroad, with evaluations distributed over 3, 7, 8, 9 and 10 (one answer for each value). Most of the scores are in the high range (7–10), highlighting an overall very positive judgment of the international experience. However, the presence of a single evaluation of 3 indicates that, in at least one case, the experience did not fully meet expectations, probably due to specific critical issues related to the host context or the organization of the mobility.

Overall, the figure highlights a picture in which experiences abroad are to a large extent appreciated and recognized as highly formative, especially in terms of final satisfaction. However, some critical issues remain: the inhomogeneity of the support provided by the professors and the University, the strong variability in the quality of assistance by the host institutions and the presence, albeit limited, of overall unsatisfactory experiences. These aspects suggest the need to strengthen and make more uniform the system of accompaniment to international mobility in the coming cycles.

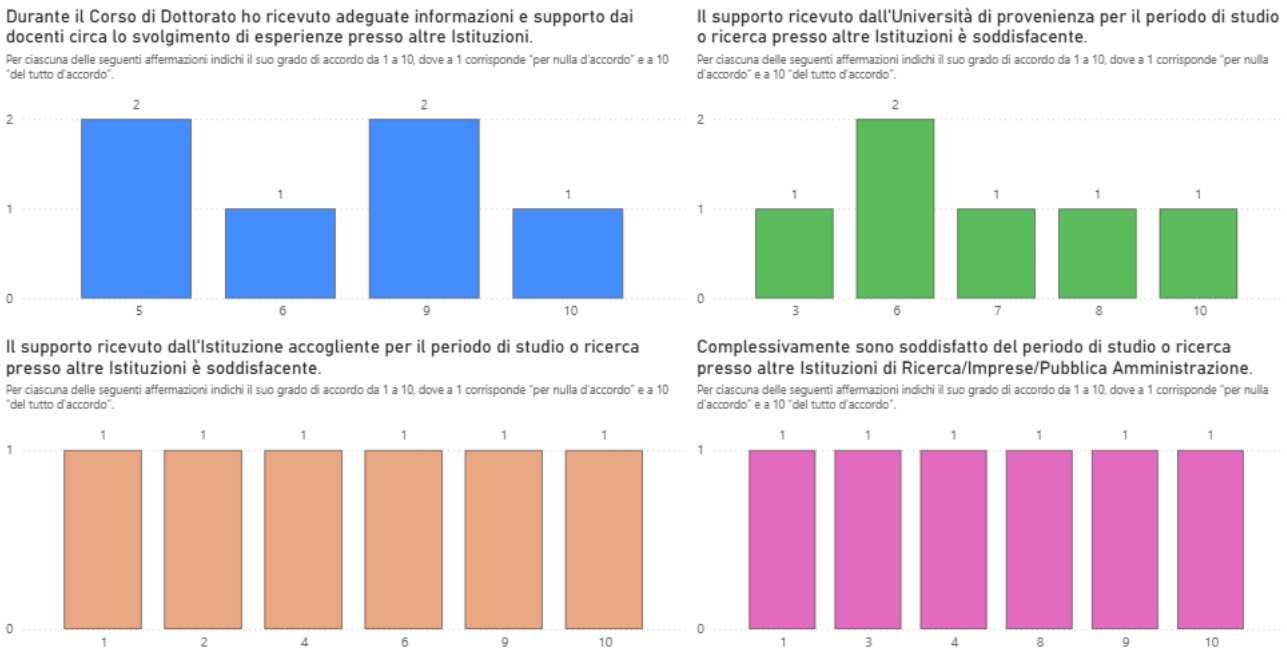

Figure 8. Section B, page 3.

The figure in Section B, page 3, collects four histograms that evaluate the information and organizational support received for carrying out experiences at other institutions (universities, research institutions, companies, PA) and the overall satisfaction with these experiences. Responses are expressed on a scale of 1 to 10.

The first graph, relating to the statement "During the PhD course I received adequate information and support from the professors about carrying out experiences at other institutions", has values of 5, 6, 9 and 10, with frequencies: 5 (2 answers), 6 (1 answer), 9 (2 answers), 10 (1 answer). The picture is overall positive, but not fully uniform: a part of the PhD students evaluate the support very positively (9–10), while a non-negligible number considers it only sufficient (5–6). This highlights a moderate criticality linked to the non-homogeneity of the support provided by the different professors or research groups.

The second graph, which measures the degree of agreement with the statement "The support received from the home university for the period of study or research at other institutions is satisfactory", shows ratings of 3, 6, 7, 8 and 10, with 6 appearing twice. The presence of a score of 3, significantly lower than the others, signals an evident criticality, indicating that at least one PhD student perceived the University's support as decidedly insufficient. The other evaluations, between 6 and 10, instead outline a judgment ranging from fair to excellent, but the overall dispersion suggests a certain irregularity in the methods of administrative and organizational support for mobility.

The third graph concerns the statement "The support received from the host institution for the period of study or research at other institutions is satisfactory". Here, the ratings are distributed over values 1, 2, 4, 6, 9, and 10, with only one answer for each value. This is the most critical graph on the page:

the presence of extremely low scores (1 and 2) indicates that, in some cases, the support offered by the host institution has been perceived as completely inadequate. At the same time, very high values (9 and 10) show opposite, highly positive experiences. This strong excursion highlights a marked heterogeneity between the different host institutions, suggesting the opportunity for a more careful selection of partners and a more systematic monitoring of the quality of reception.

Finally, the fourth graph, relating to the statement "Overall, I am satisfied with the period of study or research at other Research Institutions/Companies/Public Administration", presents values of 1, 3, 4, 8, 9 and 10, once again with only one answer for each score. Here too there is a strong dispersion: on the one hand, the presence of very high marks (8–10) testifies that for several doctoral students the experience was overall very positive; on the other hand, the ratings of 1 and 3 indicate that some have had an unsatisfactory time in other institutions. This confirms a perceived quality of experiences that is not homogeneous, significantly dependent on the specific context.

Overall, the figure highlights a "patchy" picture: alongside excellent experiences, effectively supported by both the University and the host institution, there are cases in which the support was perceived as inadequate and the overall experience as disappointing. The main criticality does not concern so much the average level of evaluations, but their strong variability, which suggests the need to make the system of accompaniment to collaborations with other institutions more structured and homogeneous, from the phase of choosing the partner to the monitoring of the quality of the period carried out.

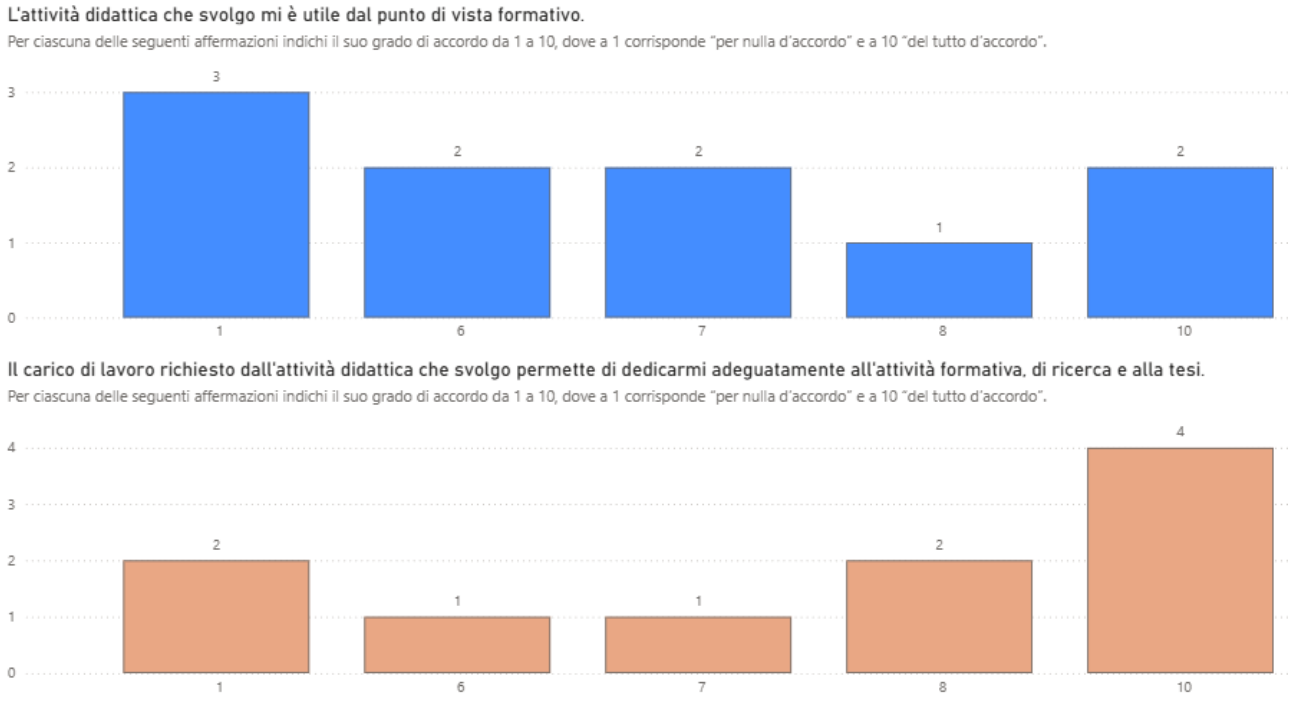

Figure 9. Section B, page 4.

The figure relating to Section B, page 4, analyzes two fundamental aspects related to the teaching activity carried out by doctoral students: on the one hand, its educational usefulness, on the other hand, the adequacy of the workload with respect to research and thesis activities. Responses are expressed on a scale of 1 to 10.

The first graph evaluates the statement "The teaching activity I carry out is useful to me from an educational point of view". The scores reported are 1 (3 answers), 6 (2 answers), 7 (2 answers), 8 (1 answer), 10 (2 answers). The distribution is highly heterogeneous: on the one hand, very low values such as 1, assigned by three PhD students, indicate that a significant part of the sample perceives teaching as not very useful or even not useful. On the other hand, the presence of high scores (8 and 10) signals opposite experiences, experienced as highly formative. Overall, the graph shows a marked lack of homogeneity in the perception of the educational value of teaching, probably linked to the different tasks assigned, the context in which the activity takes place or the level of actual involvement of the doctoral student.

The second graph concerns the statement "The workload required by the teaching activity I carry out allows me to devote myself adequately to the training, research and thesis activities". The evaluations collected are 1 (2 answers), 6 (1 answer), 7 (1 answer), 8 (2 answers), 10 (4 answers). In this case, the distribution shows a trend more oriented towards high values, with a prevalence of the score 10, assigned by four PhD students. This suggests that, for most respondents, teaching commitment does not constitute a significant obstacle to carrying out research activities. However, the presence of two evaluations equal to 1 and one equal to 6 indicates that a minority of the sample perceives the teaching load as excessive or in any case such as to interfere with the thesis work. Also in this case a non-negligible variability of individual experiences emerges.

Overall, the figure highlights a complex scenario: while the impact of the teaching workload appears generally sustainable for most PhD students, the perception of the educational usefulness of the teaching activity is much more fragmented, with a substantial share of extremely low responses. This suggests a specific criticality: the teaching activity, although not generally too burdensome, is not always perceived as a real training tool. A reflection on the type of activities assigned, the level of responsibility and the methods of supervision could contribute to making the teaching experience more homogeneous and more valued by doctoral students.

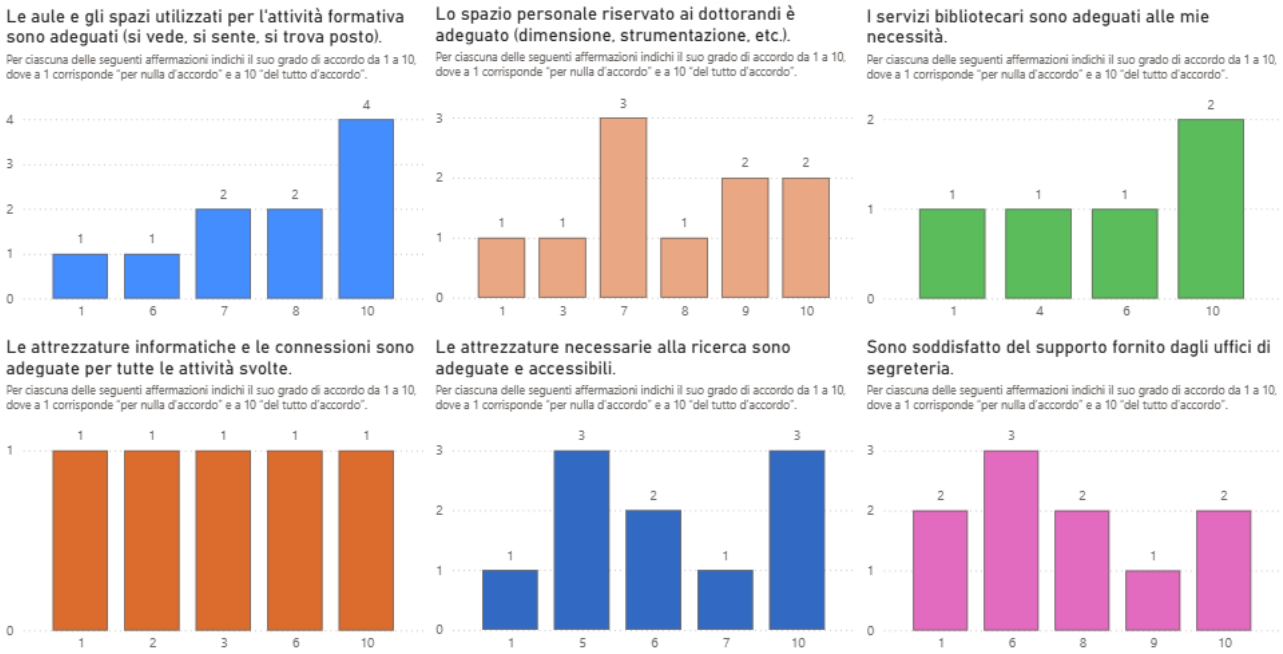

Figure 10. Section B, page 5.

The figure in Section B, page 5, presents six graphs that assess the adequacy of the spaces, equipment and support services offered to PhD students. Responses are expressed on a scale of 1 to 10.

The first graph concerns the statement "The classrooms and spaces used for training activities are adequate". Ratings range from 1 to 10, with the highest scores being the most prevalent and four responses being 10. However, the presence of a single 1 indicates that not all PhD students perceived the spaces as fully adequate, indicating a slight inhomogeneity in the conditions of the environments used.

The second graph evaluates the statement "The personal space reserved for doctoral students is adequate". The answers are distributed between 1 and 10, with a concentration on the value 7. The lower scores (1 and 3) indicate that, for some PhD students, the dedicated space does not fully meet the needs of work, highlighting a criticality related to the availability or quality of the workstations.

The third graph considers the perception "The library services are adequate for my needs". Scores range from 1 to 10, with two very positive responses (10) but also low ratings (1 and 4). This signals significant variability in access to or satisfaction with available library resources.

The fourth graph concerns the statement "IT equipment and connections are adequate for all activities carried out". The values reported range from 1 to 10, with several low scores (1, 2 and 3). This is one of the most evident critical issues of the page, indicating that for some PhD students the IT equipment or connectivity are not fully adequate.

The fifth graph analyses the statement "The equipment needed for research is adequate and accessible". Responses vary between 1 and 10, with a prevalence of medium-high values (5–10) but

also a minimum rating of 1. This suggests that, while research equipment is generally adequate, it may not be uniformly accessible to all PhD students.

The sixth graph assesses "I am satisfied with the support provided by the secretarial offices". Ratings range from 1 to 10, with most scores in the 6–10 range, but with two responses out of 1 indicating distinctly negative experiences. The perception of administrative support therefore appears not completely homogeneous.

Overall, the figure shows a generally positive picture but characterized by a certain variability, with some areas – in particular IT equipment, library services and administrative support – showing contradictory evaluations and reporting limited but relevant critical issues for a part of the PhD students.

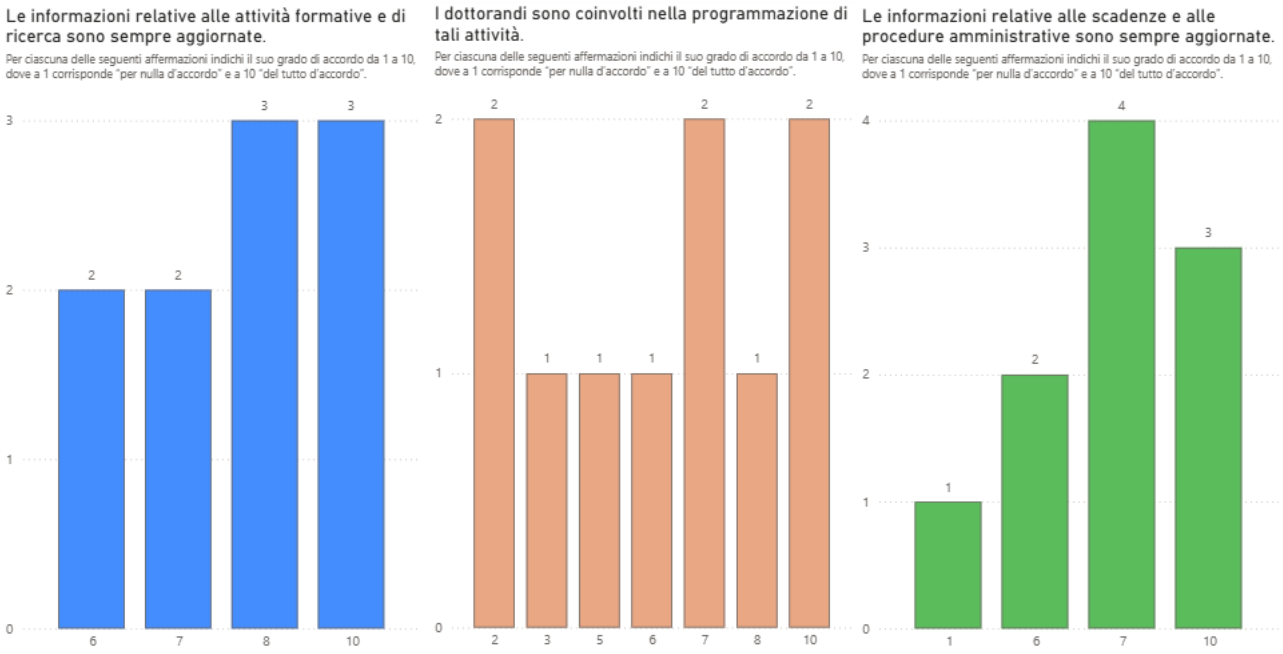

Figure 11. Section B, page 6.

The figure in Section B, page 6, presents three graphs concerning the quality of the information received by the doctoral students and their involvement in the planning of the activities. Responses are expressed on a scale of 1 to 10.

The first graph evaluates the statement "Information relating to training and research activities is always up-to-date". The responses recorded are 6 (2 answers), 7 (2), 8 (3), 10 (3). All scores are in the medium-high range, with a prevalence of values 8 and 10. This indicates a decidedly positive perception of the updating of information, although without reaching unanimity. The absence of low values suggests that the flow of information is generally considered adequate.

The second graph concerns the statement "PhD students are involved in the planning of these activities". The distribution is much more variable, with scores of 2 (2 answers), 3 (1), 5 (1), 6 (1), 7 (2), 8 (1), 10 (2). The presence of low values (2 and 3) indicates that a significant part of PhD students

perceives limited involvement in the definition of activities. At the same time, the presence of high scores (8 and 10) highlights opposite experiences, suggesting a strong inhomogeneity between courses or research groups. It is, therefore, a critical area linked to the lack of systematic involvement.
The third graph assesses the statement "Information on deadlines and administrative procedures is always up-to-date". The responses observed are 1 (1), 6 (2), 7 (4), 10 (3). Most focus on values 7 and 10, indicating a good level of satisfaction. However, the presence of a score of 1 signals that at least one PhD student has experienced information perceived as insufficiently clear or up-to-date. The data set therefore suggests a generally positive situation, but with room for improvement in administrative communications.
Overall, the figure highlights a communication considered to be overall effective and up-to-date, especially with regard to training activities and deadlines. The only real critical area concerns the level of involvement of doctoral students in programming, which appears to be very variable and in some cases insufficient. Greater coordination and more structured participation could improve the overall perception of the process.

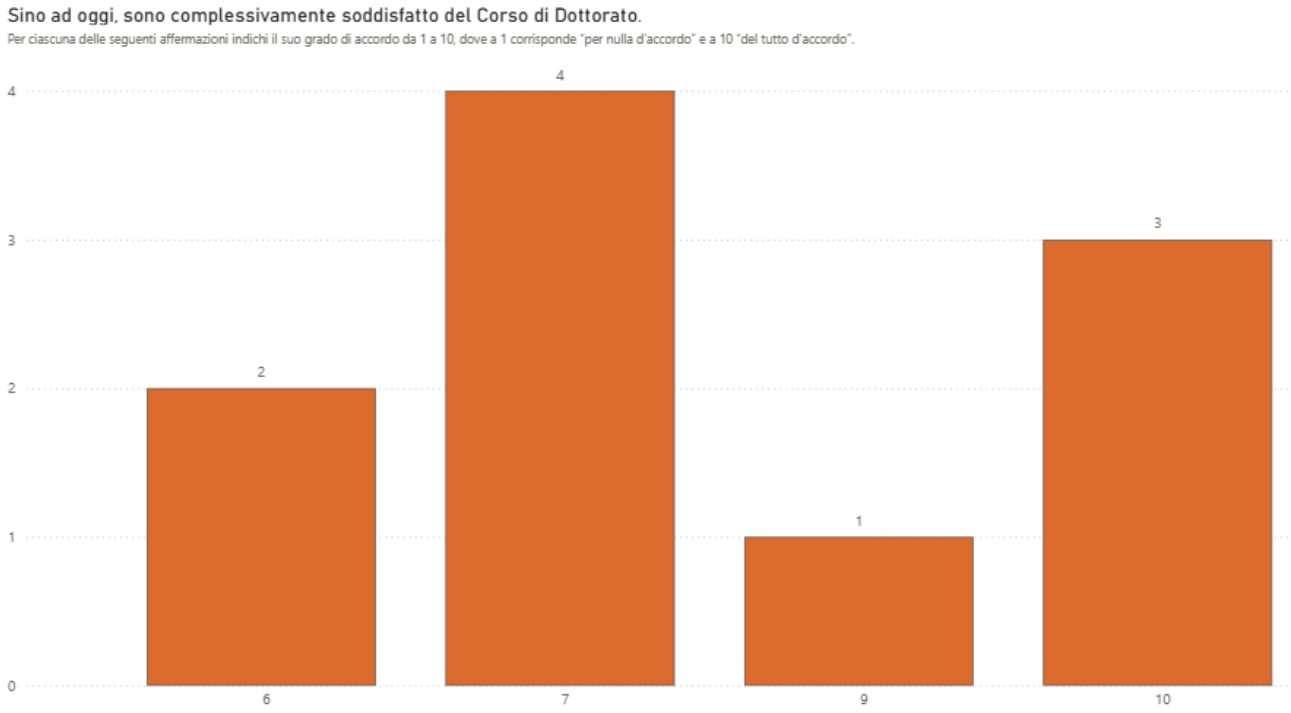

Figure 12. Section B, page 7.

The figure in Section B, page 7, reports the evaluations relating to the statement "To date, I am overall satisfied with the PhD Course". Responses are expressed on a scale of 1 to 10.
The ratings recorded are 6 (2 answers), 7 (4 answers), 9 (1 answer), 10 (3 answers). The picture that emerges is clearly positive: most doctoral students choose medium-high values, with a prevalence of a score of 7 and three answers equal to 10. The absence of values below 6 indicates that there are no cases of marked dissatisfaction.

However, the distribution shows a slight variability in perceptions, evident from the presence of differentiated values in the 6–10 range. This suggests that, although satisfied overall, some PhD students see room for improvement in some components of the pathway. Overall, however, the result indicates a high level of general satisfaction, consistent with the trends of the previous pages.

2. PhD in Engineering | Cycle XXXIX

Number of questionnaires: 46

2.1. Section A

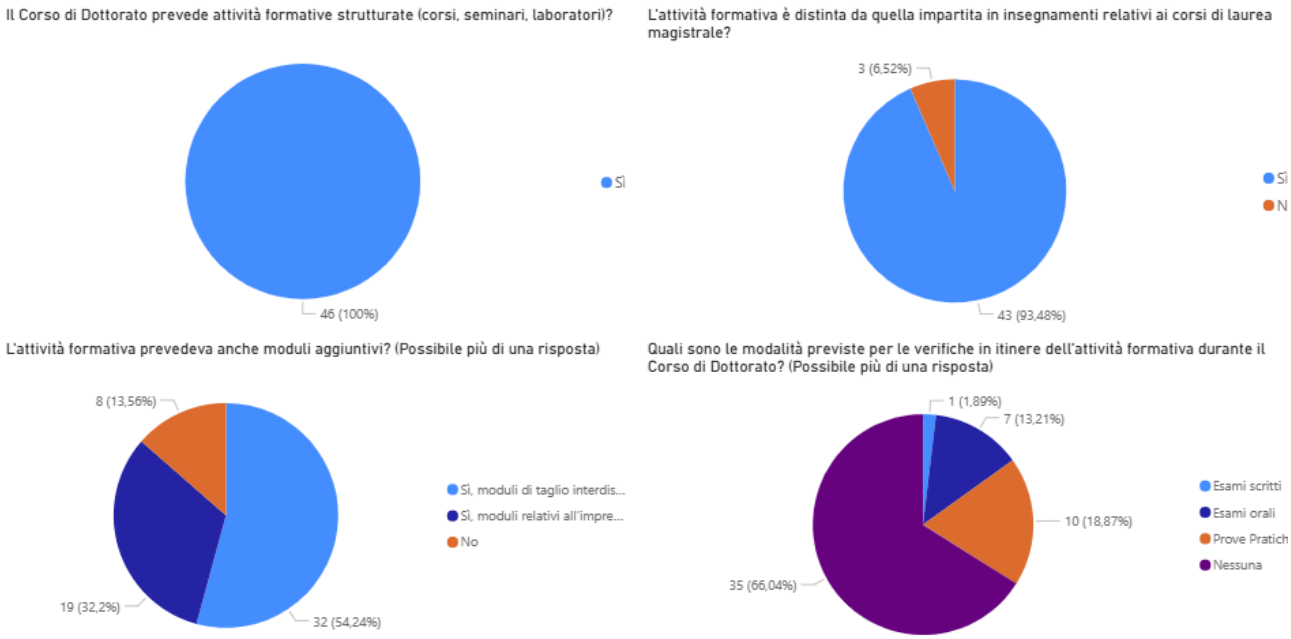

Figure 13. Section A, page 1.

Figure 1 presents the answers of the PhD students of the XL cycle regarding the structure and perception of the educational activity of the PhD Course in Engineering. The four graphs allow you to outline a clear overall picture full of indications.

The first graph, relating to the presence of structured training activities, shows a unanimous result: all 46 PhD students (100%) confirm that the course includes courses, seminars and workshops. This figure testifies to a high clarity of the training system and effective communication of the activities envisaged in the program.

The second graph concerns the distinction between doctoral teaching and master's degree teaching. Almost all respondents (43 PhD students, equal to 93.48%) perceive doctoral training as clearly distinct, while only 3 responses (6.52%) report a partial overlap. The data confirms that the training proposal is generally recognized as adequate for the advanced level required, while suggesting a possible attention to further differentiate some contents.

The third graph, relating to additional modules, indicates that the majority of PhD students (32 answers, 54.24%) have benefited from interdisciplinary, multidisciplinary or transdisciplinary modules, while 19 answers (32.2%) refer to modules related to entrepreneurship or competitive financing. Only 8 answers (13.56%) report the absence of supplementary modules. Overall, an enriched and articulated training offer emerges, although not uniform for the entire cohort.

The fourth graph analyses the assessment methods: practical tests are the most frequent method, with 35 answers (66.04%), while written tests (1 answer, 1.89%) and oral tests (7 answers, 13.21%) are less common. 10 doctoral students (18.87%) indicate the lack of verifications. This trend highlights a prevalence of applicative evaluations, consistent with the experimental nature of the pathway, but also a certain variability in the verification methods adopted.

Overall, the figure outlines a very positive picture, with a high perception of coherence, structure and enrichment of the training offer, despite the presence of some differences in the diffusion of supplementary modules and in the homogeneity of the tests.

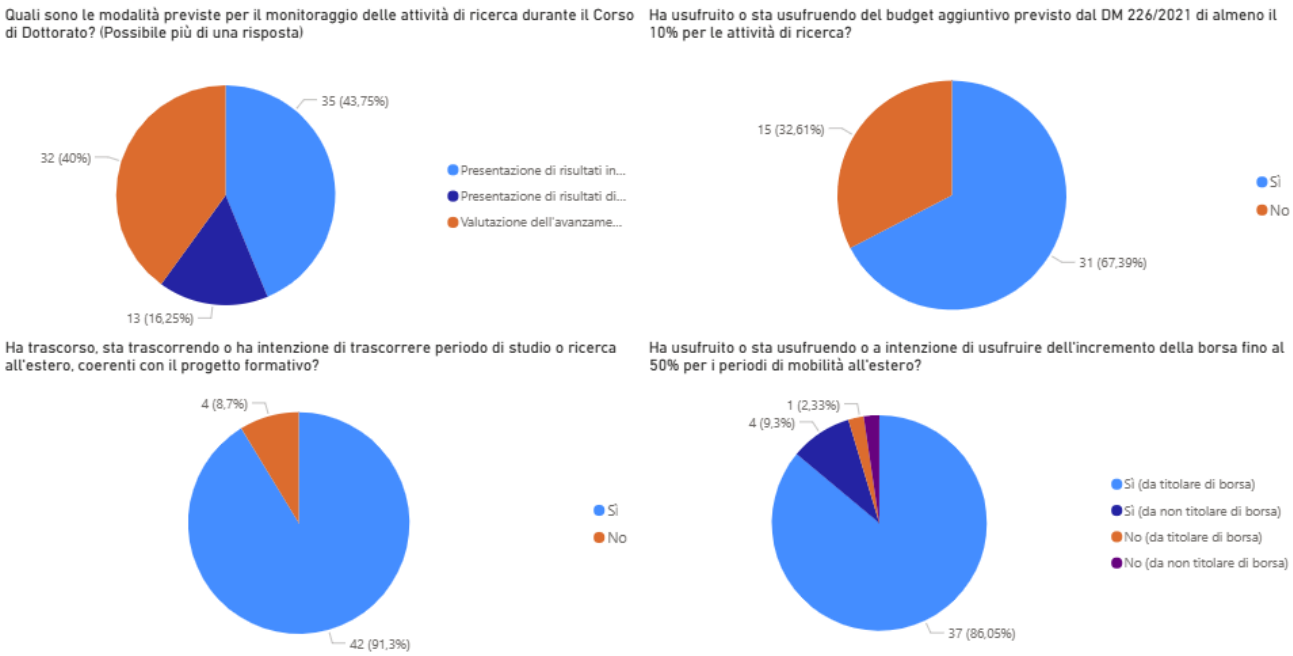

Figure 14. Section A, page 2.

Figure 2 – Section A, page 2 provides information on how to monitor research activities and the use of mobility opportunities and additional budgets provided for by current legislation.

The first graph, relating to the methods of monitoring research activities, shows that the most common form is the individual presentation of results: this option is indicated in 35 cases (43.75%). This is followed by the evaluation of the progress of the thesis work at the end of the year, with 32 responses (40%), and the presentation of group results, with 13 responses (16.25%). Overall, a structured monitoring system emerges, based mainly on individual moments and periodic thesis checks, while opportunities for collegial discussion are present but less frequent.

The second graph concerns the use of the additional 10% budget provided for by Ministerial Decree 226/2021 for research activities: 31 PhD students (67.39%) declare that they have used it or use it, while 15 (32.61%) indicate that they have not used it. The figure indicates a significant use of available resources, even with a non-negligible share of doctoral students who have not yet made use of this tool.

The third graph shows that the vast majority of PhD students of the XL cycle have already carried out, are carrying out or intend to carry out a period of study or research abroad consistent with the training project: 42 responses (91.3%) are positive, against only 4 (8.7%) negative. This result highlights a high degree of internationalization of the course.

Finally, the fourth graph shows the answers on the increase of up to 50% of the scholarship for mobility periods abroad. The prevailing share is represented by doctoral students holding a scholarship who have benefited or intend to take advantage of the increase, equal to 37 responses (86.05%). The remaining answers are distributed among those who, despite being scholarship holders, do not use the increase (4 cases, 9.3%) and a small fraction of non-holders who, due to the different configurations provided, fall within the other answer options (1 case for each of the two remaining categories, 2.33%). Overall, the figure confirms a very extensive use of the economic opportunities associated with mobility.

Taken together, the results of the figure outline a framework strongly oriented towards the structured monitoring of research and the enhancement of international experiences, with a wide participation both in the use of the additional budget and in the increase of the mobility grant.

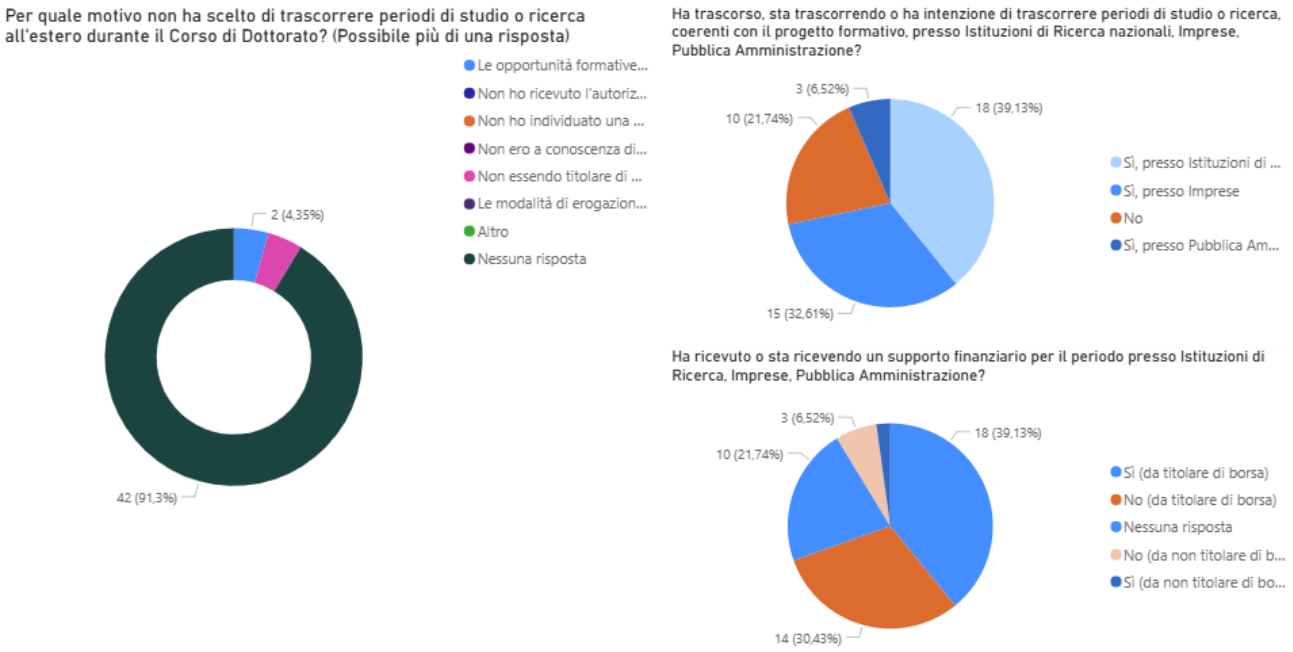

Figure 15. Section A, page 3.

Figure 3 – Section A, page 3 (XL cycle) explores the reasons for the lack of international mobility and the experiences carried out in research institutions, companies and public administrations, as well as the associated financial support.

The first graph analyzes the reasons why some PhD students did not choose to carry out periods of study or research abroad. Almost all respondents who did not carry out mobility indicate "no answer" (42 cases, 91.3%), while only 2 PhD students (4.35%) report an explicit reason, linked to the lack of dedicated funding or other specific constraints; the remaining options are not selected. This trend represents an important criticality, because it makes it difficult to understand the real causes of lack of mobility and suggests a certain reticence or difficulty in declaring the limiting factors.

The second graph concerns the carrying out of periods of study or research at national research institutions, companies or public administrations, consistent with the training project. The results show that 18 PhD students (39.13%) have carried out or intend to carry out activities at research institutions, 10 (21.74%) at companies and 3 (6.52%) at public administrations; 15 responses (32.61%) indicate the absence of such experiences. Overall, more than two-thirds of doctoral students have or plan some form of external collaboration, with a good presence of both research institutions and companies, while a still significant share has not undertaken paths of this type.

The third graph assesses the presence of financial support for periods spent at research institutions, companies or public administrations. 18 PhD students (39.13%) declare that they have received financial support as scholarship holders, while 14 (30.43%) indicate that they have not obtained additional funds despite being scholarship holders. Among non-holders, 3 responses (6.52%) indicate the absence of funding and 1 response (2.17%) indicates the presence of support; 10 PhD students (21.74%) do not provide any indication. The picture highlights an uneven access to economic resources, with a part of doctoral students – in particular those who do not hold a scholarship and those who did not respond – who could find themselves in a situation of greater difficulty in supporting the costs of external experiences.

Overall, the figure shows a good level of interaction with research institutions and companies and a non-negligible use of the available funding, but it also highlights two main critical issues: on the one hand, the very poor explanation of the reasons for the lack of international mobility, on the other hand, a not entirely uniform distribution of financial support among doctoral students, especially with regard to non-scholarship holders and those who do not declare their situation.

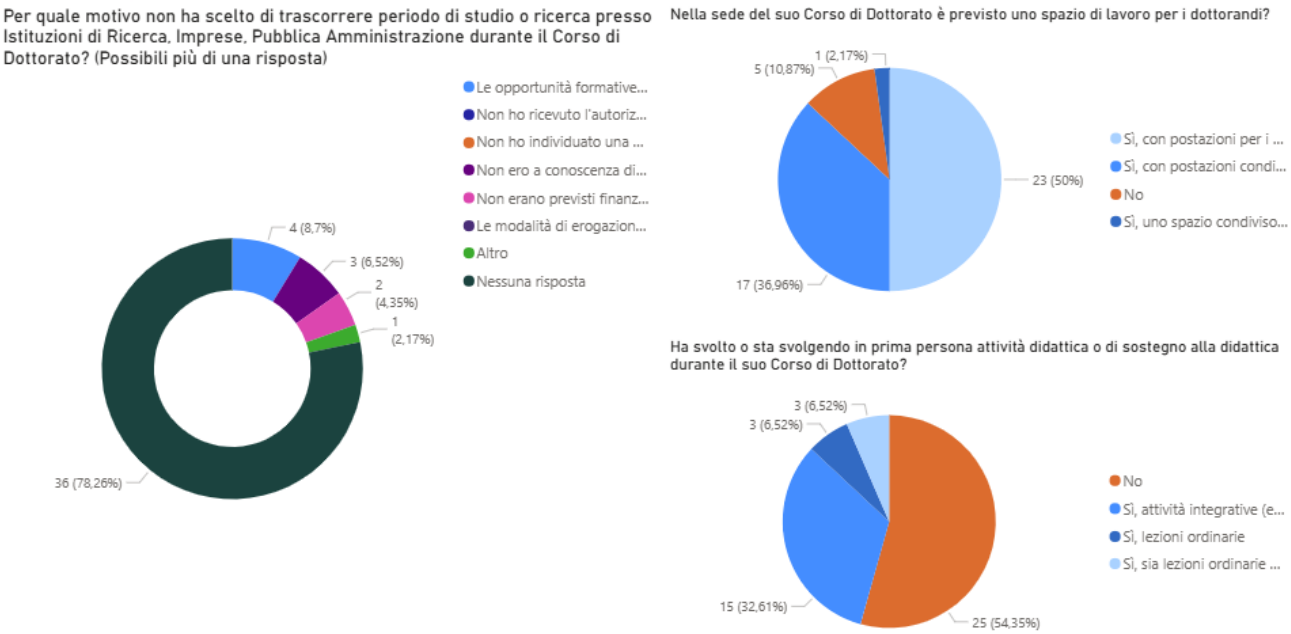

Figure 16. Section A, page 4.

Figure 4 – Section A, page 4 (XL cycle, 46 questionnaires) explores the reasons for the lack of mobility at other institutions, the availability of dedicated workspaces and the involvement of PhD students in teaching activities.

The first graph analyzes the reasons why some PhD students did not carry out periods of study or research at research institutions, companies or public administrations during the PhD. The largely prevalent share is represented by "no response" (36 cases, 78.26%), while only a minority indicates explicit reasons: failure to identify a host structure, lack of knowledge of opportunities, problems related to funding or other reasons (in total 10 cases, distributed between 8.7%, 6.52%, 4.35% and 2.17%). This is a clear challenge, as the scarcity of reasoned responses does not allow for a full understanding of the factors hindering mobility to other institutions.

The second graph concerns the availability of workspaces dedicated to PhD students at the course location. Half of the respondents (23 PhD students, 50%) declare that they have individual workstations, while 17 (36.96%) report the presence of shared workstations. Only 5 PhD students (10.87%) declare the absence of dedicated spaces and 1 (2.17%) indicates a shared space without assigned workstations. Overall, the picture is positive, but there remains a non-negligible minority that does not have optimal working conditions.

The third graph analyzes the performance of teaching or teaching support activities. The relative majority of doctoral students (25, equal to 54.35%) declare that they do not carry out activities of this type. Among those involved, 15 (32.61%) carry out supplementary activities (exercises, seminars, tutoring), while 3 (6.52%) hold ordinary lessons and another 3 (6.52%) carry out both ordinary lessons and supplementary activities. The figure confirms the presence of educational opportunities,

but also highlights a non-generalized participation, which could limit, for some doctoral students, the acquisition of skills useful in an academic perspective.

Overall, the figure gives a picture in which the workspaces are to a large extent adequate and a part of the doctoral students is involved in teaching activities, but two main critical issues emerge: the lack of explanation of the reasons for non-mobility to other institutions and the not full dissemination of teaching experiences to the entire cohort.

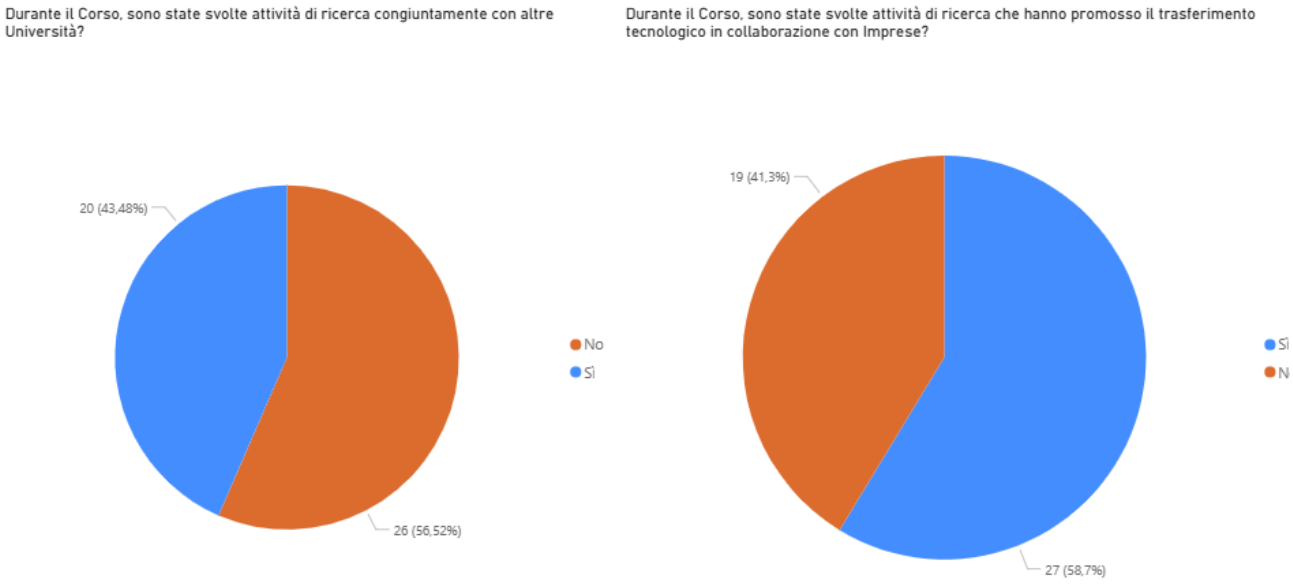

Figure 17. Section A, page 5.

Figure 5 – Section A, page 5 (XL cycle) summarizes the degree of openness of the PhD Course to other universities and to companies, through two questions related to research collaborations.

The first graph concerns the question "During the Course, were research activities carried out jointly with other universities?". The results show that 26 PhD students (56.52%) declare that they have not carried out activities of this type, while 20 (43.48%) report experiences of inter-university collaboration. The figure indicates that collaborations with other universities are present but not yet in the majority, highlighting a possible area for improvement in terms of internationalization and integration into broader academic networks, especially considering the advanced nature of the doctoral path.

The second graph refers to the question "During the Course, were research activities carried out that promoted technology transfer in collaboration with companies?". In this case, the situation appears more favourable: 27 PhD students (58.7%) respond positively, while 19 (41.3%) declare that they have not participated in technology transfer activities. The figure shows a good interaction with the productive fabric, with more than half of the doctoral students involved in projects with companies; however, there remains a substantial share that has not yet experienced such collaborations.

Overall, the figure highlights a PhD that shows a good level of openness to companies and involvement in technology transfer activities, while collaborations with other universities are less

widespread and represent a potential critical issue on which to work to further strengthen the network dimension and scientific visibility of the Course.

2.2. Section B

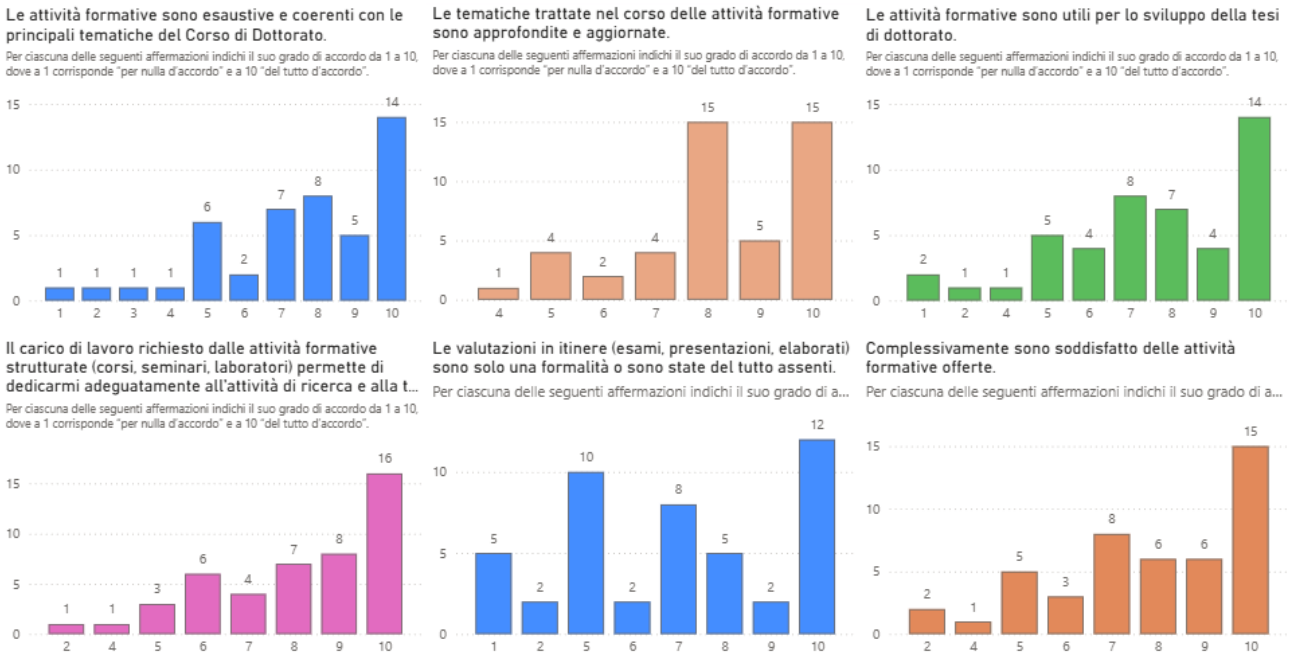

Figure 18. Section B, page 1.

The figure in Section B, page 1, collects six histograms that describe the degree of agreement of the PhD students of the XL cycle with different statements relating to the quality and impact of the training activities.

The first graph, relating to the statement "the training activities are exhaustive and consistent with the main topics of the PhD Course", shows values between 1 and 10. The lowest scores (1–4) appear with only one answer each, while the distribution is increasingly concentrated on the high values: 6 answers equal to 5, 2 equal to 6, 7 equal to 7, 8 equal to 8, 5 equal to 9 and 14 equal to 10. This trend indicates that the vast majority of PhD students perceive the activities as fully relevant and well aligned with the objectives of the Course, with only a few cases expressing a lukewarm or critical judgment.

The second graph considers the statement "the topics covered during the training activities are in-depth and updated". In this case, the answers are distributed between 4 and 10, with a single answer equal to 4, 4 answers equal to 5, 2 equal to 6 and 4 equal to 7. The highest values are clearly prevalent, with 15 answers out of both 8 and 10 and 5 out of 9. The perception is therefore strongly positive: almost all PhD students consider the contents to be in-depth and in line with the state of the art, while

the presence of few medium-low values signals only a limited lack of homogeneity in expectations or experiences.

The third graph concerns the usefulness of training activities for the development of the doctoral thesis. The evaluations range from 2 to 10: there are 2 answers equal to 2, one equal to 3 and one equal to 4, followed by 5 answers equal to 5 and 4 equal to 6. Most of the scores, however, are concentrated at the highest end of the scale, with 8 answers equal to 7, 7 equal to 8, 4 equal to 9 and 14 equal to 10. Overall, the trend is clearly positive, but the presence of some very low values suggests that for a small share of doctoral students the educational offer is not fully integrated with their thesis project, representing an area of attention in terms of personalization of the paths.

The fourth graph analyzes the statement "the workload required by structured training activities allows me to devote myself adequately to the research activity and the thesis". Here the answers are between 2 and 10, with only one value equal to 2 and one equal to 4. The intermediate scores count 3 answers equal to 5, 6 equal to 6 and 4 equal to 7, while the high values are dominant: 7 answers equal to 8, 8 equal to 9 and 16 equal to 10. The overall picture is therefore very positive: the vast majority of PhD students perceive the teaching load as compatible with the research activity, even if some isolated cases indicate a possible difficulty in balancing.

Particularly significant is the fifth graph, which assesses the degree of agreement with the statement "ongoing evaluations (exams, presentations, papers) are only a formality or have been completely absent". Since this is a formulation in the negative sense, high values denote a critical judgment. The answers are distributed between 1 and 10: 5 doctoral students indicate 1 and 2 doctoral students 2, expressing disagreement with the idea that evaluations are only formal; however, 10 answers are placed on the value 5, 2 out of 6, 8 out of 7, 5 out of 8, 2 out of 9 and even 12 out of 10. This trend highlights a marked criticality: a significant share of doctoral students perceive the tests as insignificant or poorly structured, confirming the need to make the assessment methods more homogeneous, transparent and really useful to the training course.

Finally, the sixth graph, relating to the statement "overall I am satisfied with the training activities offered", shows values between 2 and 10. There are 2 answers equal to 2 and one equal to 4, while the remaining are distributed mainly in the medium-high range: 5 answers equal to 5, 3 equal to 6, 8 equal to 7, 6 equal to 8, 6 equal to 9 and 15 equal to 10. The concentration of scores between 7 and 10 indicates a very high level of overall satisfaction, while the few low values seem to refer to specific individual situations.

Overall, the figure outlines a clearly positive picture: training activities are perceived as coherent, up-to-date, useful and with a workload generally adequate for research. The most evident criticality concerns the perception of ongoing evaluations, often considered formal or poorly structured by a

substantial part of doctoral students. This is a central aspect on which to intervene to further strengthen the perceived quality of the training course in subsequent cycles.

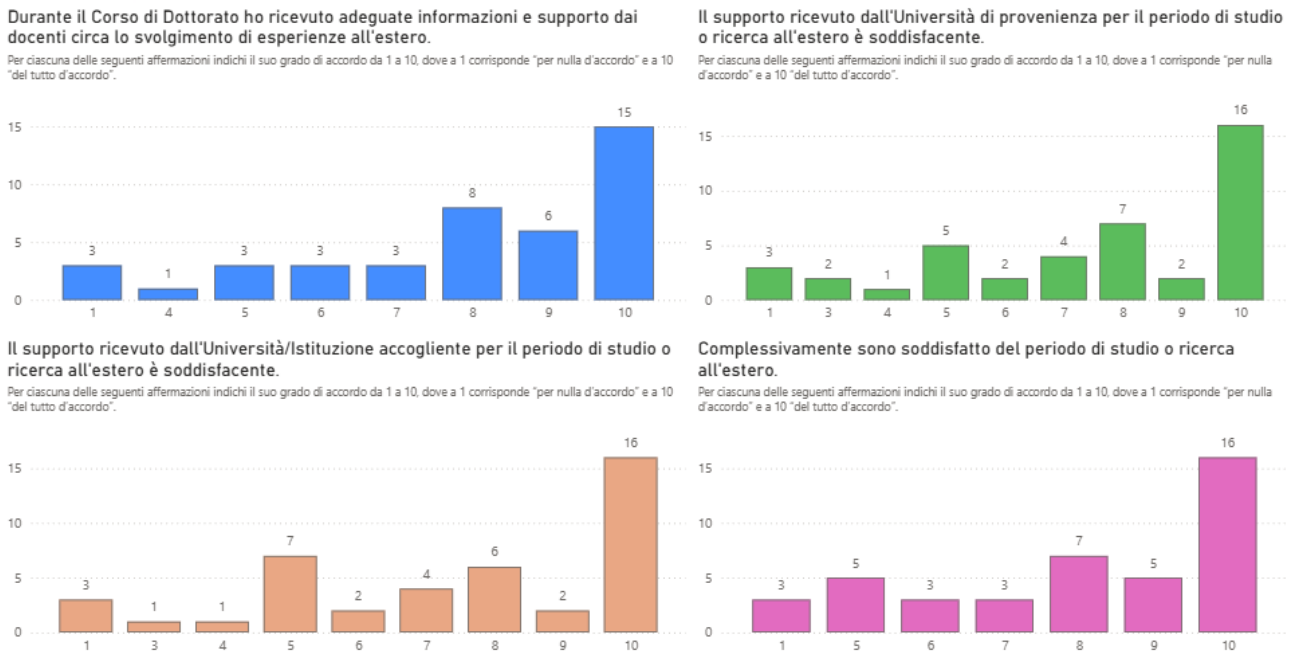

Figure 19. Section B, page 2.

The figure in Section B, page 2, collects four histograms that describe the degree of agreement of doctoral students with different statements related to the support received for periods of study or research abroad.

The first graph concerns the statement that "during the PhD course I received adequate information and support from the professors about carrying out experiences at other institutions". The answers are between 1 and 10, with very low values limited to an isolated case for scores 1 and 4, while the distribution is mainly concentrated in the high range: 8 answers equal to 8, 6 equal to 9 and 15 equal to 10. The trend indicates that the vast majority of doctoral students perceive clear and effective support from professors.

The second graph analyzes the support received by the home university for the period abroad. Ratings range from 1 to 10, with three responses equal to 1, some intermediate evaluations (scores 3–6) and a clear prevalence of high values: 4 responses equal to 7, 7 equal to 8, 2 equal to 9 and 16 equal to 10. Also in this case, the judgment is clearly positive, with a generalized appreciation of the administrative and organizational support.

The third graph concerns the statement that "the support received from the host University/Institution for the period of study or research abroad is satisfactory". Responses cover the entire spectrum from 1 to 10, but low values (1–5) are limited to a few isolated cases. In fact, the distribution focuses on the highest scores, with 6 equal to 8 and 16 equal to 10. This trend testifies to a generally positive experience with the host institutions.

Finally, the fourth graph presents the overall level of satisfaction for the period abroad. The answers range from 1 to 10, with few low values and a concentrated distribution between 7 and 10: 7 answers equal to 8, 5 equal to 9 and 16 equal to 10. The overall evaluation is therefore very high, indicating that the experience abroad was perceived as extremely satisfactory by most of the PhD students.

Overall, the figure gives a decidedly positive picture: the support provided by professors, the university of origin and the host institutions is perceived as adequate and well structured, and the periods of study or research abroad are highly satisfactory for almost all participants, with only a few exceptions related to specific individual experiences.

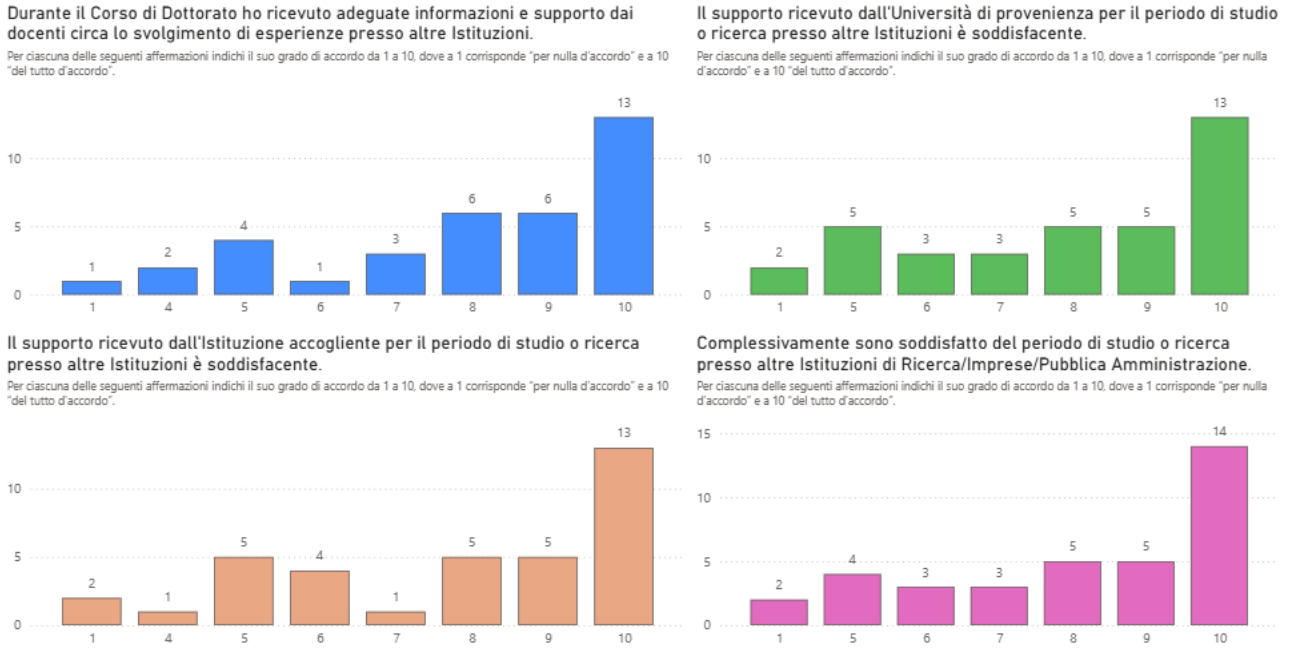

Figure 20. Section B, page 3.

The figure in Section B, page 2 (XL cycle), presents four histograms describing the degree of agreement of the PhD students with some statements on the support received for periods of study or research carried out at other Research Institutions/Companies/Public Administrations.

The first graph concerns the statement "During the PhD course I received adequate information and support from the professors about carrying out experiences at other institutions". The scores range from 1 to 10, with only one answer equal to 1, no response on values 2 and 3, 2 answers equal to 4, 4 equal to 5, 1 equal to 6, 3 equal to 7, 6 equal to 8, 6 equal to 9 and 13 equal to 10. The distribution is therefore clearly shifted towards high values, indicating that the majority of doctoral students believe they have received adequate information support from professors, albeit with some isolated cases of dissatisfaction.

The second graph analyzes the judgment on the support received by the home university for the period at other institutions. Here too, the evaluations are mainly placed in the upper part of the scale: there are 2 answers equal to 1, 5 equal to 5, 3 equal to 6, 3 equal to 7, 5 equal to 8, 5 equal to 9 and 13 equal

to 10. The absence of very low intermediate scores (2–4) and the strong concentration between 8 and 10 show that administrative and organizational support is generally perceived very positively, with only a small proportion reporting difficulties or less effective support.

The third graph is dedicated to the statement "The support received from the welcoming institution for the period of study or research at other institutions is satisfactory". The answers cover the values 1, 4, 5, 6, 7, 8, 9 and 10: 2 answers are observed equal to 1, 1 equal to 4, 5 equal to 5, 4 equal to 6, 1 equal to 7, 5 equal to 8, 5 equal to 9 and 13 equal to 10. Again, the distribution is clearly oriented upwards, suggesting that the host institutions were, in most cases, perceived as welcoming and supportive, albeit with some less positive experiences reported by the lower scores.

Finally, the fourth graph summarizes the overall satisfaction with the period of study or research at other Research Institutions/Companies/Public Administration. The scores range from 1 to 10, with 2 answers equal to 1, 4 equal to 5, 3 equal to 6, 3 equal to 7, 5 equal to 8, 5 equal to 9 and 14 equal to 10. The concentration of responses in the 7-10 range, and in particular the high number of maximum evaluations, confirms a very high level of overall satisfaction, compared to a few cases in which the experience was judged not to be very positive.

Overall, the figure gives a highly favourable picture: doctoral students who have spent periods at other institutions perceive a good coordination between professors, universities of origin and host structures, and evaluate the overall experience in a largely satisfactory way. The few low evaluations represent individual situations that can nevertheless offer useful indications to further refine the methods of information and support.

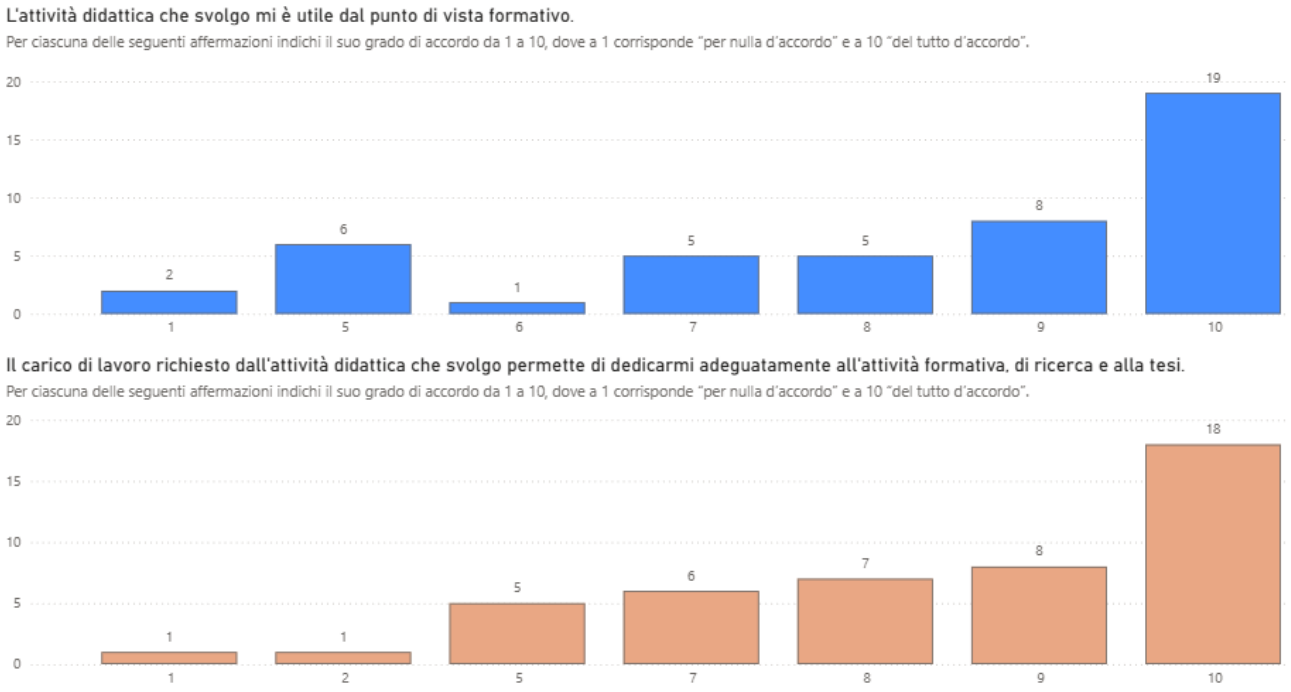

Figure 21. Section B, page 4.

The figure in Section B, page 4, shows two histograms relating to the perception of the teaching activities carried out by the PhD students of the XL cycle: on the one hand, the educational usefulness of these activities, and on the other hand, the adequacy of the workload with respect to the other components of the doctorate.

The first graph refers to the statement "The teaching activity I carry out is useful to me from an educational point of view". The evaluations are distributed between 1 and 10: the lowest answers are numerically very limited, while most doctoral students are in the medium-high range, with a substantial number of evaluations equal to 5–8. Particularly relevant is the strong concentration on maximum scores: many doctoral students indicate 9 and especially 10, which is the most frequent value. Overall, the framework suggests that teaching is perceived not only as an obligation, but as an experience with a significant educational return, even in the presence of a small share that considers it less useful.

The second graph concerns the statement "The workload required by the teaching activity I carry out allows me to devote myself adequately to the training, research and thesis activities". In this case, the answers cover the range between 1 and 10, but with a clearly unbalanced distribution towards high values. Very low ratings (1 and 2) are isolated, while responses are progressively concentrated on 7, 8 and 9, up to a marked prevalence of the score 10, which represents the most selected value. This trend indicates that, for the vast majority of PhD students involved in teaching activities, the associated load is considered compatible with the preparation for research and the development of the thesis, without being perceived as excessively burdensome.

Overall, the figure gives a largely positive picture: the teaching experience is generally considered useful from an educational point of view and the related workload appears, except for a few cases, to be well balanced compared to the other components of the doctoral path.

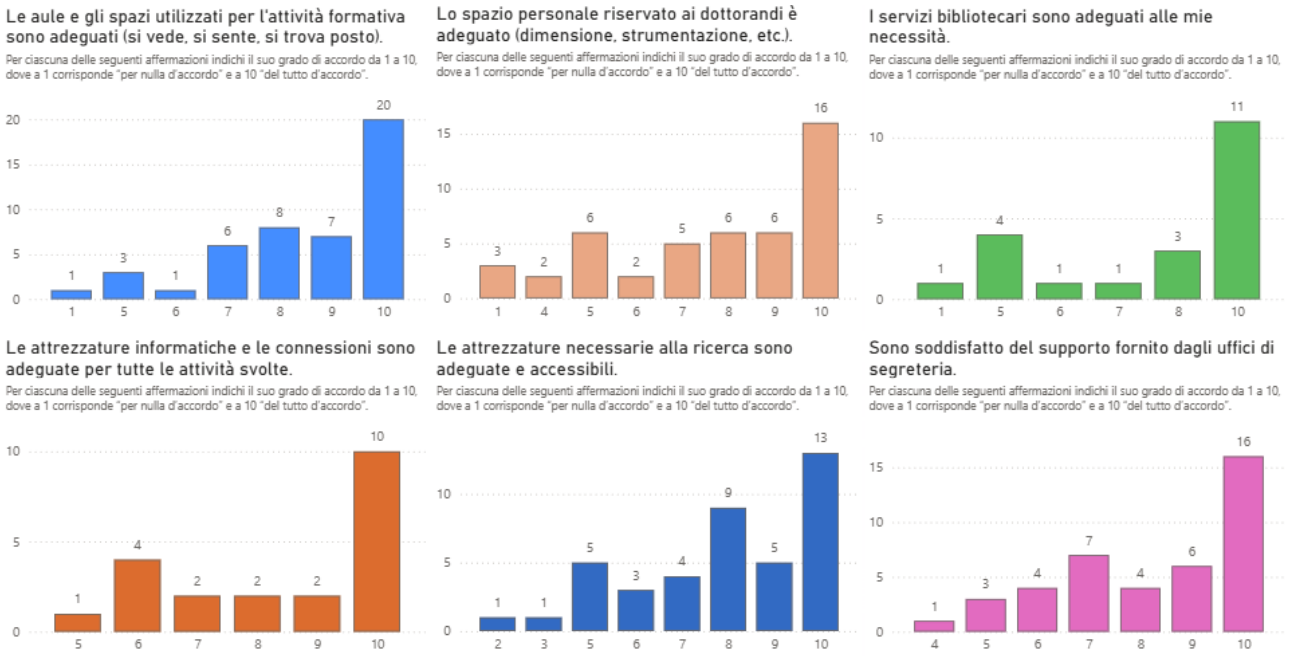

Figure 22. Section B, page 5.

The figure in Section B, page 5, collects six histograms relating to the perception of PhD students of the XL cycle on the quality of spaces, services and equipment supporting training and research activities.

The first graph concerns the statement "The classrooms and spaces used for training activities are adequate (you can see, hear, find a place)". The evaluations range from 1 to 10, with only one answer for each of the scores 1 and 6, 6 answers equal to 7, 8 equal to 8, 7 equal to 9 and 20 equal to 10. The distribution strongly skewed towards the highest values highlights a very positive perception of the quality and usability of the teaching spaces.

The second graph refers to the "personal space reserved for doctoral students (size, instrumentation, etc.)". In this case, the answers range from 1 to 10: there are 2 answers equal to 4, 6 equal to 5, 2 equal to 6, 5 equal to 7, 6 equal to 8, 6 equal to 9 and 16 equal to 10. Although very positive evaluations are still prevalent, the presence of a non-negligible number of intermediate evaluations (4–6) signals a certain heterogeneity in the quality of the personal spaces available to doctoral students.

The third graph considers the statement "The library services are adequate for my needs". Ratings range from 1 to 10: 1 response is 1, 4 is 5, 1 is 6, 1 is 7, 3 is 11 is 10. Here too, the picture is overall positive, with a good number of maximum ratings, but the presence of some medium-low evaluations indicates that not all PhD students perceive library services as fully responding to their needs (availability of texts, databases, timetables, etc.).

The fourth graph analyzes the statement "Computer equipment and connections are adequate for all activities carried out". The answers are distributed between 6 and 10, with 4 evaluations equal to 6, 2 equal to 7, 2 equal to 8, 2 equal to 9 and 10 equal to 10. The concentration on the high-end (9–10)

suggests a good supply of hardware, software and connectivity, although with some signs of improvement for a small part of the sample.

The fifth graph concerns the availability of research tools, through the statement "The equipment necessary for research is adequate and accessible". In this case, the distribution is more articulated: the answers range from 2 to 9, with 1 answer equal to 2, 1 equal to 3, 5 equal to 5, 3 equal to 6, 4 equal to 7, 9 equal to 8. 5 equal to 9 and 13 equal to 10. The presence of numerous mid-term evaluations indicates that this is one of the relatively most critical aspects: the research equipment is judged to be sufficient overall, but not always fully adequate or easily accessible for all PhD students.

Finally, the sixth graph assesses the statement "I am satisfied with the support provided by the secretarial offices". The answers are between 4 and 10: there is 1 evaluation equal to 4, 3 equal to 5, 4 equal to 6, 7 equal to 7, 4 equal to 8, 6 equal to 9 and 16 equal to 10. The concentration of responses between 7 and 10 shows a good level of satisfaction with administrative assistance, although with some less positive experiences indicated by the lower scores.

Overall, the figure outlines an infrastructural and service context judged very favorably, especially with regard to classrooms, training spaces, secretarial support and, to a large extent, library services and IT equipment. The relatively most critical area concerns research equipment, which is adequate but not always perceived as fully satisfactory and homogeneously accessible to all PhD students.

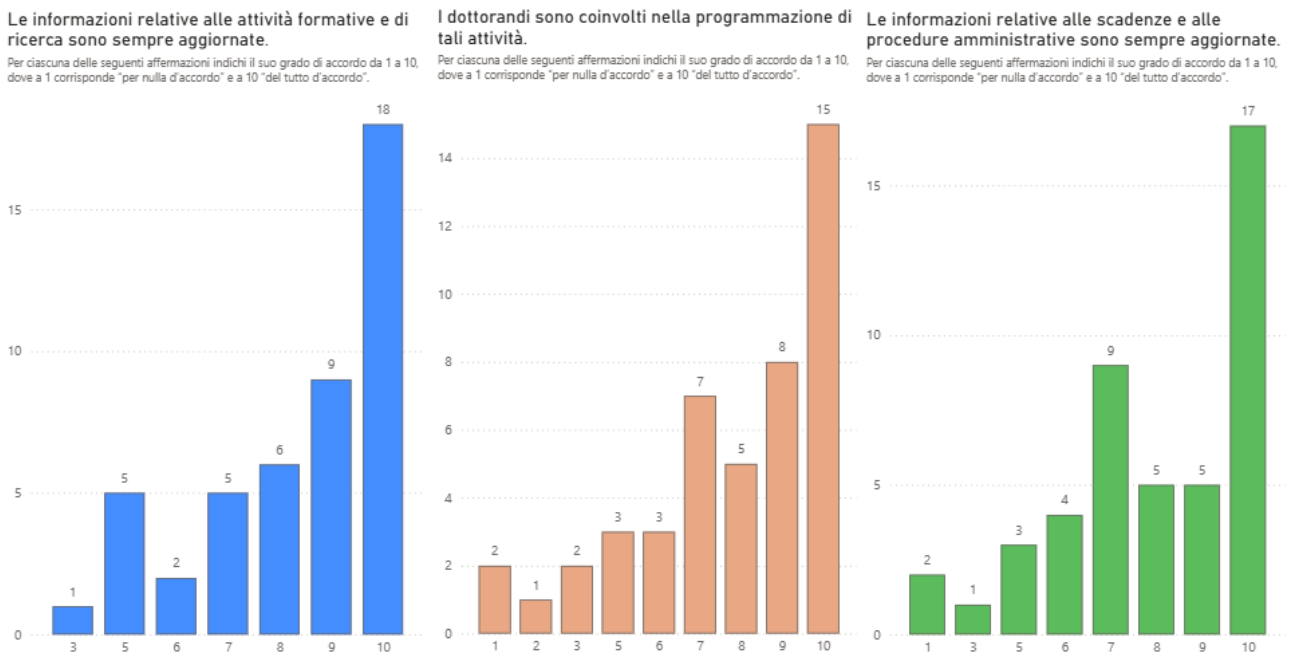

Figure 23. Section B, page 6.

The figure in Section B, page 6, collects three histograms that describe the degree of agreement of the PhD students of the XL cycle with some statements relating to the updating of information on activities, deadlines and administrative procedures.

The first graph concerns the statement "Information relating to training and research activities is always up-to-date". The evaluations are distributed between 3 and 10, with only one answer equal to 3, 5 answers equal to 5, 2 equal to 6, 5 equal to 7, 6 equal to 8, 9 equal to 9 and 18 equal to 10. The clear concentration of scores in the 8–10 range indicates that the majority of PhD students consider information on courses, seminars and research opportunities to be overall timely and reliable, while the few medium-low evaluations report isolated cases of less positive perception.

The second graph examines the statement "PhD students are involved in the planning of these activities". In this case, the answers are more distributed: there are 2 evaluations equal to 1, 1 equal to 2, 2 equal to 3, 3 equal to 5, 3 equal to 6, 7 equal to 7, 5 equal to 8, 8 equal to 9 and 15 equal to 10. While there is a strong presence of high scores (9 and 10), the tail towards low values is more pronounced than in the previous graph. This reveals a certain heterogeneity in the perception of involvement: many PhD students actually feel included in the planning of activities, but a non-negligible share evaluate this aspect only partially positively or explicitly critically.

The third graph refers to the statement 'Information on deadlines and administrative procedures is always up-to-date'. Ratings range from 1 to 10, with 2 responses equal to 1, 1 equal to 3, 3 equal to 5, 4 equal to 6, 9 equal to 7, 5 equal to 8, 5 equal to 9 and 17 equal to 10. Also in this case, the highest scores are clearly prevalent, indicating that most doctoral students consider administrative communications (deadlines, forms, procedures) to be clear and punctual; however, the presence of some low values suggests that for a smaller part of the sample, access to such information is not always fluid.

Overall, the figure outlines a largely positive picture in terms of information updating, both for scientific activities and for administrative aspects. The only area that shows a more evident criticality is that of the involvement of doctoral students in the planning of activities, for which the dispersion of scores is greater and the presence of low evaluations indicates a margin for improvement in terms of participation and sharing of decision-making processes.

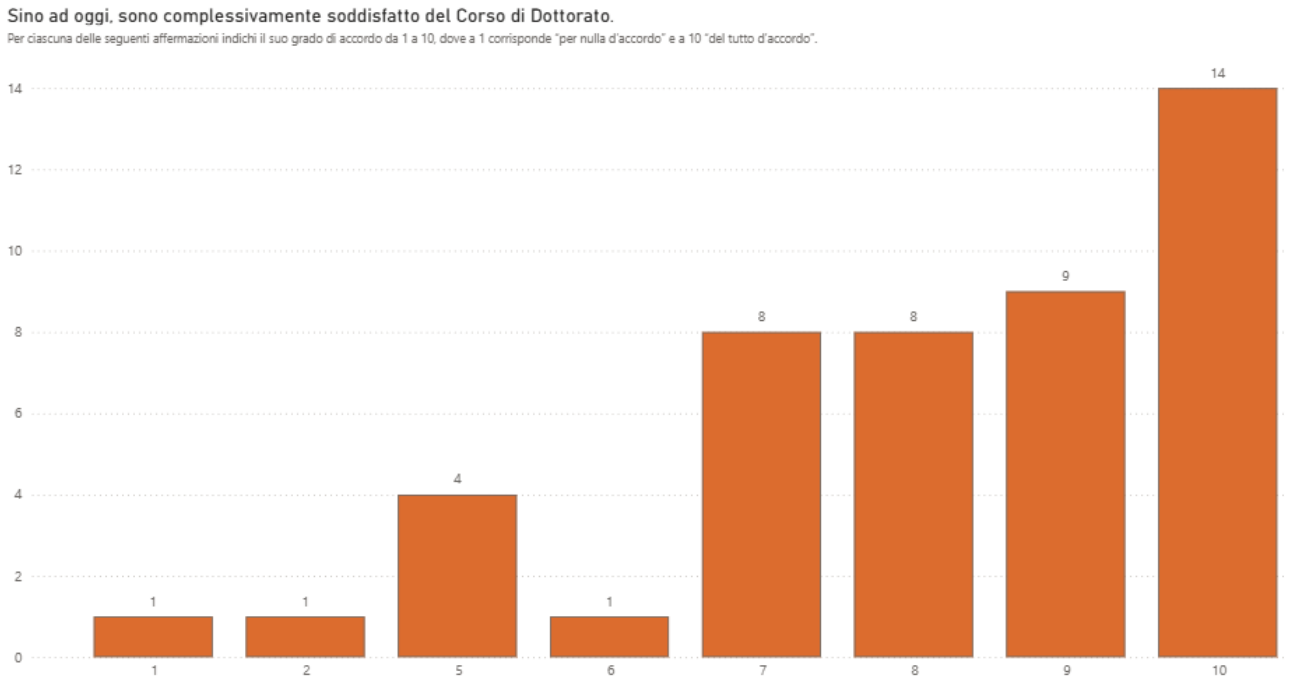

Figure 24. Section B, page 7.

The figure in Section B, page 7, shows the histogram relating to the statement "To date, I am overall satisfied with the PhD Course". Again, the answers are expressed on a scale of 1 to 10, with 1 being "not at all agree" and 10 being "strongly agreeing".

The ratings cover a range from 1 to 10, but with a clearly skewed distribution towards the highest values. There are 1 answer equal to 1 and 1 equal to 2, which indicate a strong dissatisfaction of individual doctoral students, while no values 3 and 4 appear. The score 5 was indicated by 4 respondents, 6 by only 1 PhD student, while the vast majority of responses are in the 7-10 range: 8 answers equal to 7, 8 equal to 8, 9 equal to 9 and 14 equal to 10, which represents the most frequent value.

Overall, the trend in the graph shows a very high level of overall satisfaction: almost all doctoral students express a positive or very positive opinion of their path, with a significant concentration on the maximum scores. The few low (1 and 2) and intermediate (5–6) grades indicate the presence of a minority who live the doctoral experience in a less satisfactory way, presumably for reasons related to individual situations or specific aspects of the course; however, these remain isolated cases compared to the overall picture.

3. PhD in Materials and Construction Engineering and Chemistry | Cycle XXXVII
Number of questionnaires: 4

3.1. Section A

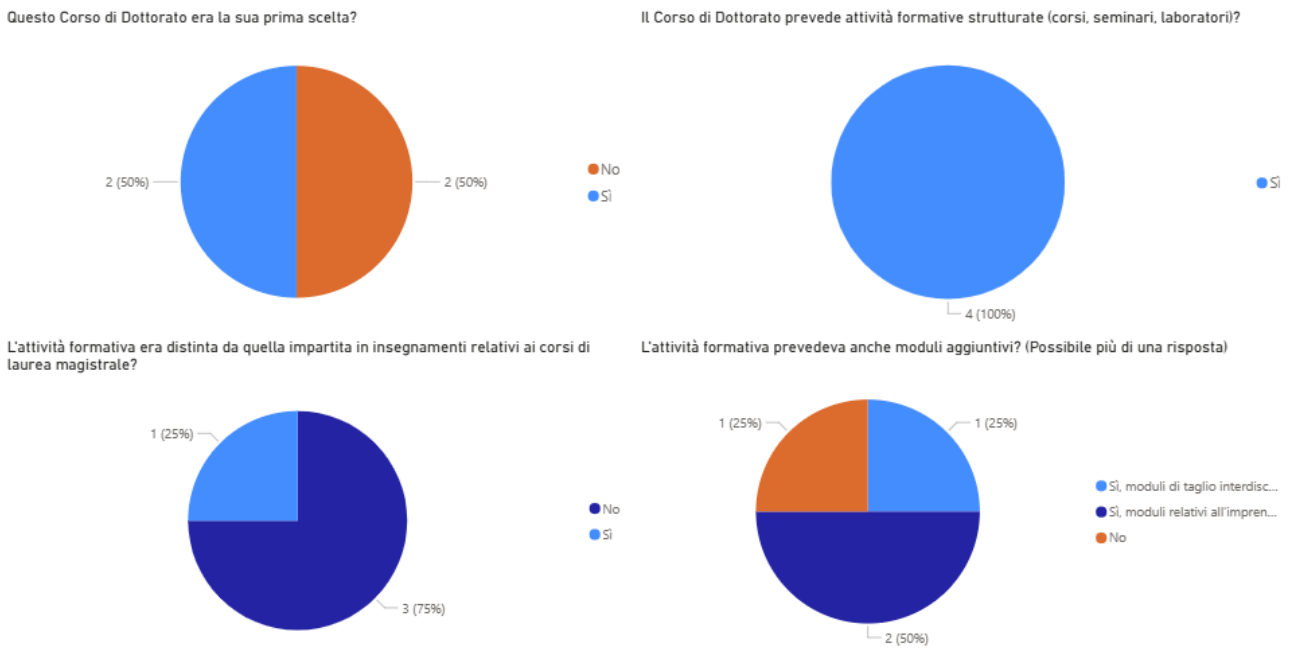

Figure 25. Section A, page 1.

The figure in Section A, page 1, collects four graphs relating to the perception of PhDs of the XXXVII cycle with regard to the structure and nature of training activities. Considering the extremely small number of respondents (4), the results should be read with caution, but they still offer a significant first picture.

The first graph shows that the PhD course was not necessarily the first choice for everyone: the answers are in fact divided in a perfectly symmetrical way, with two doctors who had indicated it as the first option and two who instead undertook the path as an alternative choice. This distribution highlights a group that is initially heterogeneous in its motivations and expectations.

The second graph, on the other hand, returns a fully uniform result: all participants (100%) confirm that the course included structured training activities. This convergence indicates that the presence of courses, seminars and laboratories was clear, stable and perceived as an integral part of the programme.

As regards the distinction between training and teaching in master's degree programmes, the third graph shows a clear majority: three respondents (75%) perceive the contents as adequately differentiated and specific to the third level of training, while only one doctor reports a partial overlap. Although this is a marginal figure, it points out the possibility that some activities were not fully characterized by the advanced point of view required for a doctoral course.

Finally, the fourth graph, dedicated to the presence of additional modules, shows a more complex situation: two doctors (50%) declare that they have followed interdisciplinary modules, one reports the presence of modules oriented towards entrepreneurship or transversal skills, while another indicates that there were no additional modules. This variability suggests that these activities were

not mandatory or not uniformly accessible, or that not everyone perceived their nature or relevance in the same way.

Overall, the figure describes a positive and tendentially consistent picture, even with the physiological oscillations linked to the very small number of the sample. The training activities are structured and largely differentiated from previous levels, while the integrative component appears to be present but not fully uniform among the participants.

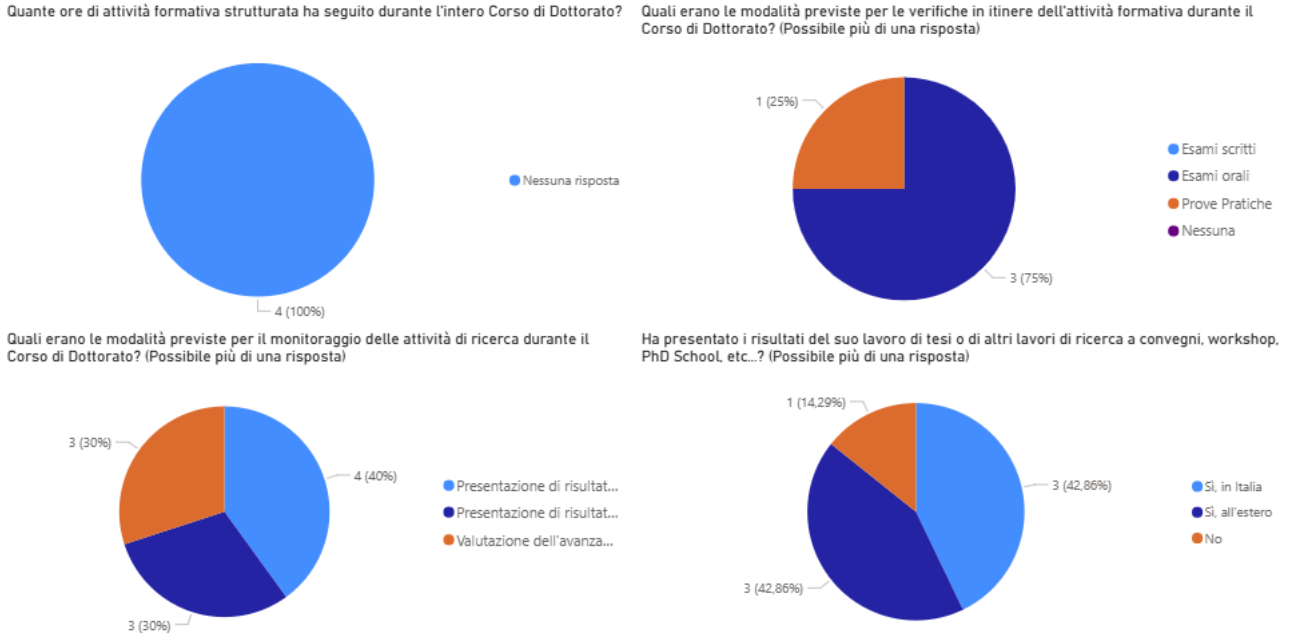

Figure 26. Section A, page 2.

The figure in Section A, page 2, presents four graphs that describe the experience of PhDs in the XXXVII cycle with respect to the quantity, methods of evaluation and monitoring of training and research activities during the course.

The first graph, dedicated to the number of hours of structured training activity followed during the entire PhD Course, shows a peculiar result: all respondents (100%) select "no answer". This does not necessarily imply the absence of activities carried out, but rather suggests that PhDs were not able to accurately identify or quantify the total number of hours, or that this information was not clearly presented or perceived during the course. This is an interesting element because it signals a possible lack of communication or formal tracking of training hours.

The second graph concerns the methods envisaged for the ongoing checks of the training activity. Three PhDs (75%) indicate that they have taken oral exams, while one (25%) reports the presence of written exams. No practical tests or cases of total absence of checks are reported. Overall, a fairly homogeneous picture emerges in which the oral modality represents the main form of evaluation, consistent with the tradition of most Italian doctoral courses.

The third graph illustrates the methods adopted for monitoring research activities. The answers are distributed among the three available options: four doctors (40%) indicate the presentation of individual results, three (30%) that of group results and three (30%) the evaluation of the progress of the thesis work. This plurality of responses reflects the use of differentiated monitoring tools, probably calibrated both on the type of research carried out and on the consolidated practices within the teaching staff.

Finally, the fourth graph concerns participation in the dissemination of results: two doctors (42.86%) declare that they have presented their works in Italy, one (14.29%) abroad, while one (equal to 25% of the total) indicates that they have not made presentations. In the face of the small sample, the figure still shows a good presence in the main scientific communication activities, both national and international, even if not uniform for everyone.

Overall, the page highlights a picture consistent with the typical dynamics of small groups of doctoral students: clear and relatively homogeneous evaluation and monitoring methods, significant but not total participation in scientific dissemination and, as the only element of potential criticality, a lack of awareness or formalization of the timeload of structured training activities.

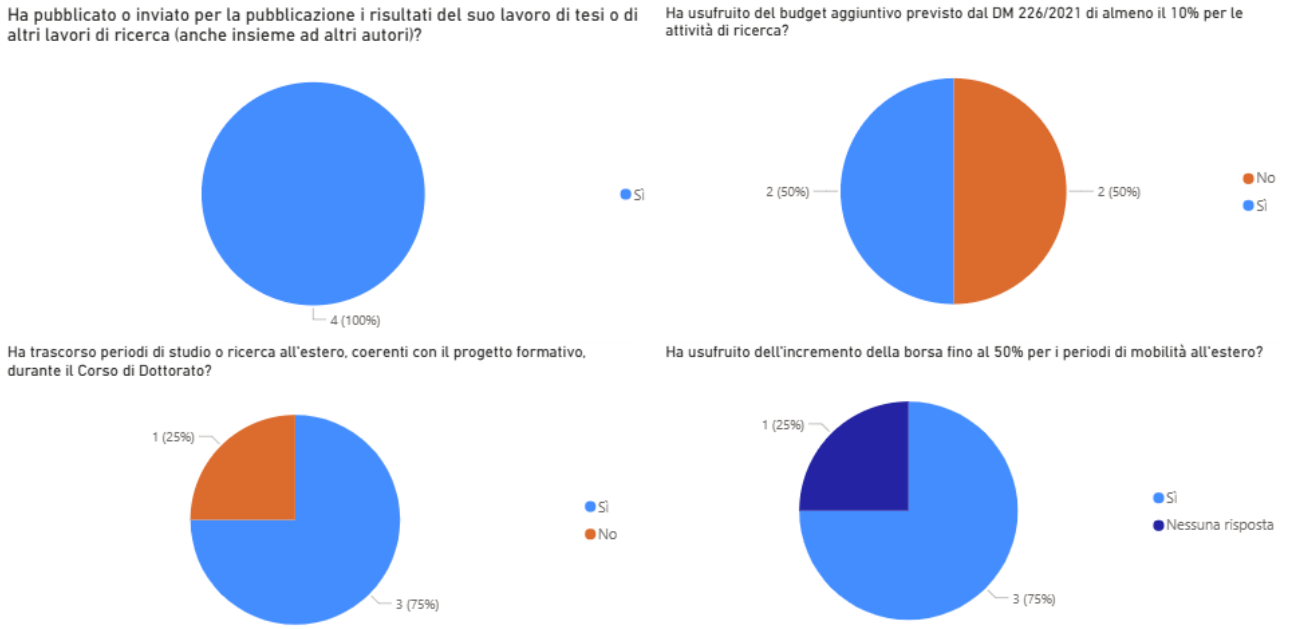

Figure 27. Section A, page 3.

The figure in Section A, page 3, collects four graphs illustrating central aspects related to scientific production, the economic support provided for by Ministerial Decree 226/2021 and the international mobility of PhDs of the XXXVII cycle.

The first graph concerns the publication or submission of the results of the thesis or other research activities. All respondents (100%) declare that they have published or at least sent their work, a figure that reflects an extremely positive outcome in terms of scientific productivity. This result confirms

that the research activity carried out during the PhD has led to contributions formally shared with the scientific community, in line with the expectations of a third-level pathway.

The second graph analyzes the use of the additional budget provided for by Ministerial Decree 226/2021 (at least 10% of the scholarship) for research activities. The answers are perfectly balanced: two doctors (50%) say they have used it and two (50%) have not done so. The figure highlights a heterogeneous situation, which may reflect differences in research needs, in the opportunities available or in the degree of information received during the course. It is an element that suggests the opportunity for more uniform communication on the possibilities offered by Ministerial Decree 226/2021.

The third graph shows the percentage of doctors who have carried out periods of study or research abroad consistent with the training project. Three respondents (75%) say they have spent time abroad, while one (25%) does not. The majority have therefore undertaken international experiences, confirming the strong integration of the XXXVII cycle paths with mobility and international collaborations, an element now central to doctoral training.

Finally, the fourth graph analyzes the use of the increase in the scholarship up to 50% expected for periods abroad. Again, the result is clear: three respondents (75%) say they have benefited from the increase, while one (25%) did not provide an answer. The figure is consistent with the answers on the stay abroad and indicates that, for those who have carried out mobility, the additional economic support has actually been used, helping to support the costs of research outside the site.

Overall, the page gives a very positive picture: all PhDs have produced publishable scientific results, most have carried out periods of international mobility and have benefited from the related scholarship increase, while there remains a slight inhomogeneity in the use of the additional budget of Ministerial Decree 226/2021. These overall elements outline a solid path, well integrated at international level and characterized by a high awareness of the value of scientific dissemination.

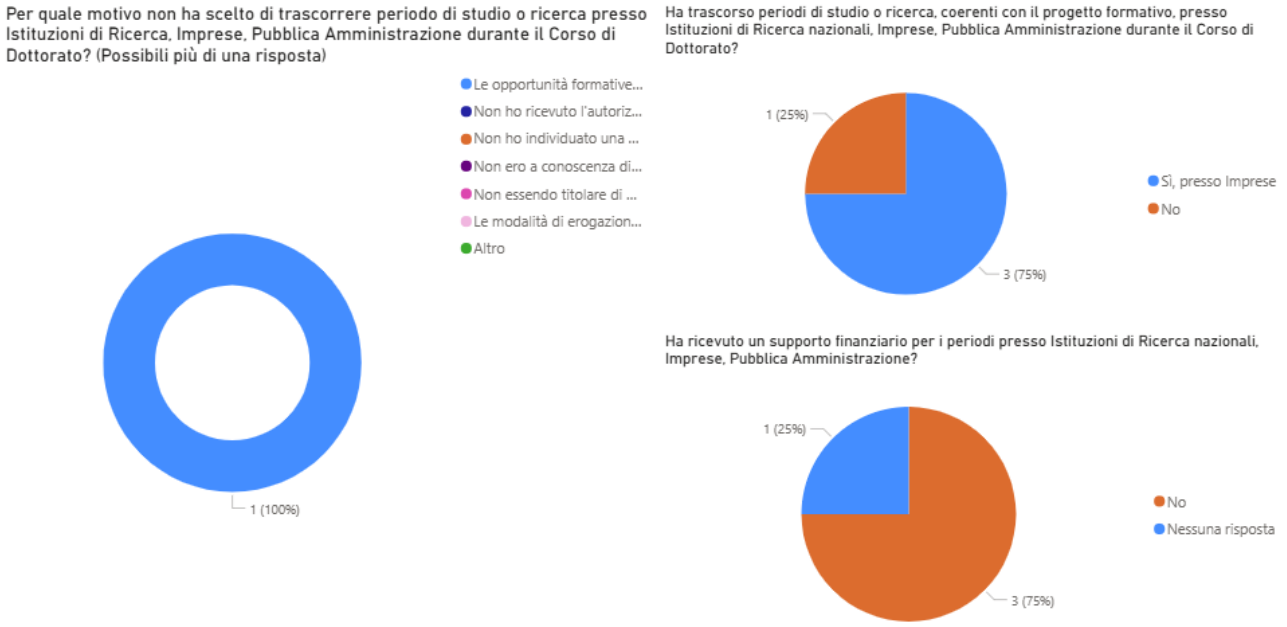

Figure 28. Section A, page 4.

The figure in Section A, page 4, presents three graphs relating to mobility choices, periods of study or research carried out during the doctorate and financial support received. Since the number of respondents is limited (4), the results are particularly significant in terms of quality.

The first graph concerns the reasons why a PhD has not carried out periods of study or research at external institutions during the course. Only one respondent (25%) indicated a reason, and this coincides with the perception that the training opportunities offered by the program were already adequate and consistent with their research project. The other three respondents did not express reasons because they actually carried out external periods. This data shows that, for those who have not undertaken mobility experiences, the choice does not seem to derive from organizational, economic or information obstacles, but rather from a positive evaluation of the activities within the course.

The second graph analyzes the presence of periods of study or research in national institutions, companies or public administrations. Three out of four respondents (75%) say they have spent time at a company, while one (25%) has not. This confirms a strong integration between the doctorate and the production world, a particularly relevant element for paths oriented towards technology transfer and the application impact of research.

The third graph concerns the financial support received for these periods. Here too there is a clear distinction: three respondents (75%) say they have not received specific funding, while one (25%) has not provided an answer. No one indicates that they have received structured economic support. This figure suggests that, despite having carried out periods in companies, these experiences were not accompanied by dedicated forms of financial support, probably because they were carried out in contexts where additional funding was not foreseen or necessary.

Overall, the page shows a picture in which mobility – in particular to companies – is widespread even without formal economic support, while the only case of lack of mobility seems to be motivated not by critical issues but by a positive evaluation of the internal training offer.

Figure 29. Section A, page 5.

The figure in Section A, page 5, presents two graphs that explore the reasons for the possible lack of mobility of PhDs and the availability of dedicated workspaces within the PhD Course.

The first graph concerns the reasons why a PhD has not carried out periods of study or research at national or international institutions during the course. As three out of four respondents have actually had an experience abroad, only one participant (25%) gave a reason. The only reason given is that the training opportunities offered by the program were already considered adequate and consistent with their research project. Therefore, there are no critical issues related to lack of information, administrative difficulties, lack of funding or organizational obstacles: the choice seems to derive exclusively from a positive evaluation of the internal path.

The second graph shows an extremely clear fact: all PhDs of the XXXVII cycle (100%) confirm that an individual workstation was provided for each PhD student at the location of the Course. This result highlights a very high level of infrastructural support, which guarantees optimal conditions for carrying out research activities and for daily stay within the Department.

Overall, the page provides a picture without criticalities: the lack of mobility concerns only one case and does not depend on operational limitations, while all participants recognize the full availability of adequate and personalized workspaces.

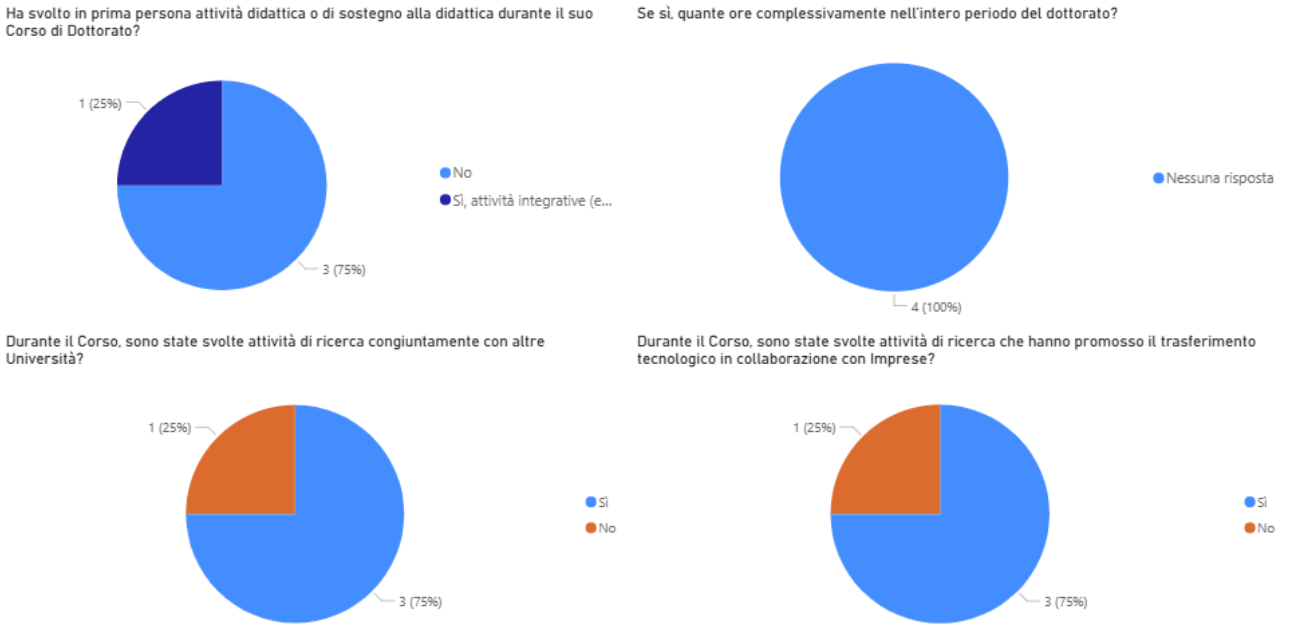

Figure 30. Section A, page 6.

The figure presents four graphs that illustrate the role played by PhDs during the course, with particular reference to teaching activities, collaborations with other universities and relations with companies. Considering that the group is made up of only four respondents, the reading of the results must be contextualized within a very small sample, but still returns clear and consistent indications.

The first graph concerns participation in teaching or teaching support activities during the doctorate. Three out of four respondents (75%) say they have carried out supplementary activities or exercises, while only one (25%) reports not having taken part. This indicates that, for most doctors, the training experience included direct involvement in teaching, which is often considered useful for the development of soft skills.

The second graph shows the total number of hours dedicated to educational activities along the entire route. All respondents (100%) selected "no answer", suggesting that the information was not provided or that it was not available in a structured form. This data confirms that the quantitative survey of the teaching load was not possible, despite the presence of activities declared in the previous graph.

The third graph considers scientific collaboration with other universities. Also in this case, a predominantly positive picture emerges: three out of four respondents (75%) declare that they have carried out joint research activities with other universities, while one (25%) indicates that they have not had such collaborations. The figure suggests a good openness to external academic networks, consistent with the doctorate's objective of fostering internationalization and inter-university cooperation.

Finally, the fourth graph analyzes participation in research activities that have promoted technology transfer in collaboration with companies. Here too the same distribution is recorded: 75% of respondents say they have taken part in such activities, while the remaining 25% indicate that they

have not had experiences of this type. The majority of doctors therefore seem to have gained contacts or collaborations with the production world, a particularly relevant element in terms of employment impact and enhancement of skills.

Overall, the figure shows a doctoral path characterized by a good balance between academic-teaching activities, institutional collaborations and interactions with the business world. The only missing information concerns the number of hours dedicated to teaching, which is not available. However, the general picture highlights a doctorate strongly oriented towards the multidimensionality of experiences, consistent with the educational objectives of the cycle.

3.2. Section B

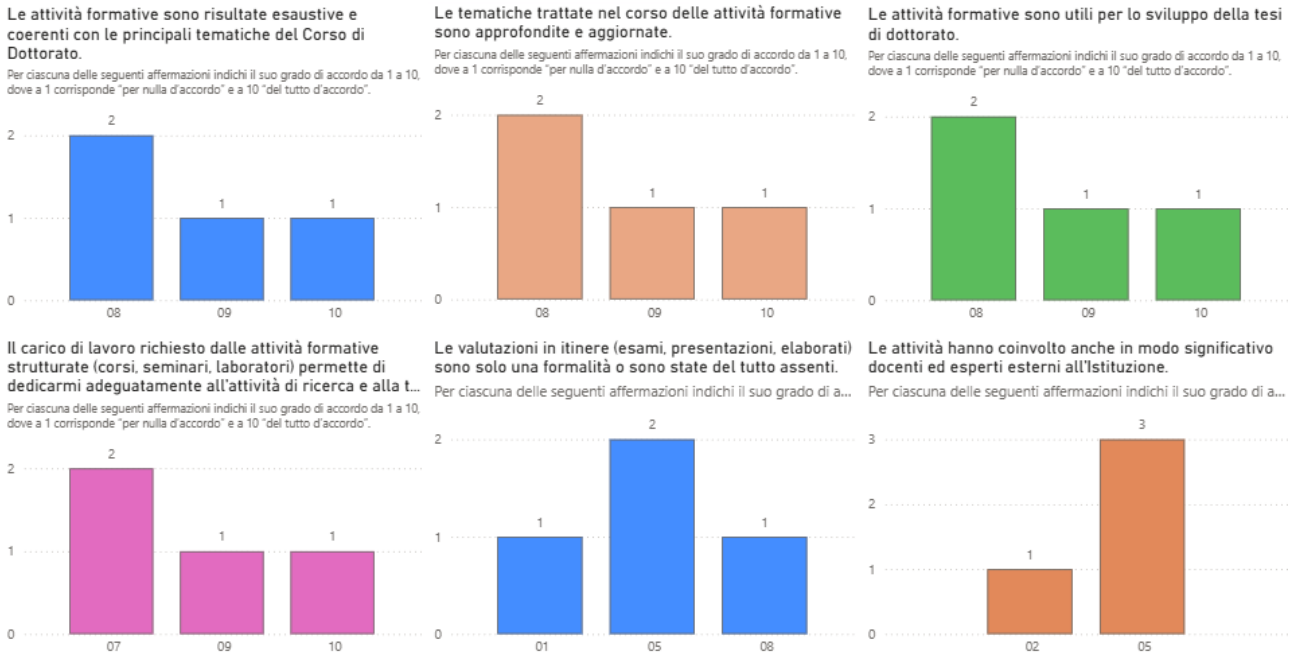

Figure 31. Section B, page 1.

The figure in Section B, page 1, collects six histograms that illustrate the judgment of PhDs of the XXXVII cycle with respect to the quality, structure and impact of the training activities carried out during their career. Since the group is made up of only four respondents, the distributions are necessarily essential, but they still allow us to outline a clear and coherent picture of the perceptions that emerged.

In the first graph, relating to the statement that the training activities were exhaustive and consistent with the main topics of the PhD Course, the scores awarded are placed exclusively at the top end of the scale: two doctors assign a value of 8, one assigns 9 and one 10. Therefore, there are no medium-low evaluations, indicating a widespread positive perception of the consistency between teaching content and the scientific objectives of the course.

A substantially identical distribution emerges from the second graph, which concerns the judgment on the deepening and updating of the topics covered. Also in this case only scores of 8, 9 and 10 appear, with the same distribution as in the previous graph. The group therefore believes that the training activities have been updated and adequately structured from the point of view of content.

The third graph, dedicated to the usefulness of training activities for the development of the doctoral thesis, confirms the same trend: two evaluations equal to 8, one equal to 9 and one equal to 10. All respondents therefore recognize a concrete contribution of training activities to the construction of their research project, without any report of little use.

A slightly more varied picture emerges in the fourth graph, which focuses on the compatibility of the workload of training activities with the conduct of research. Although the scores remain concentrated in the medium-high range, with two evaluations of 7, one of 9 and one of 10, the presence of values of 7 suggests that, for some of the doctors, the teaching load required a certain amount of management effort, although it was not problematic. Again, however, no significant critical issues emerge.

The fifth graph represents the only area in which greater inhomogeneity is observed. The statement concerns the perception of ongoing evaluations, exams, presentations or papers, considered as possible formalities or potentially absent. The answers range from 1 to 8: one doctor expresses the belief that the tests were actually structured (score equal to 1), two place their perception on an intermediate value equal to 5, while a respondent indicates a value equal to 8, suggesting that, in his case, the tests were perceived as insignificant or almost absent. In such a small group, this variability indicates an experience that is not entirely uniform, which deserves reflection.

Finally, the sixth graph assesses the involvement of teachers and external experts in training activities. The evaluations are distributed exclusively on the values 2 and 5, with only one answer equal to 2 and three answers equal to 5. Although no negative judgments emerge, the absence of high scores indicates that this element was perceived as present but not particularly incisive or decisive in the training path.

Overall, the data collected paint a clearly positive picture: all PhDs assign high scores to the central aspects of training — coherence, updating, usefulness for the thesis and adequacy of the training load — without any report of systemic criticalities. The only area that presents a more variable perception concerns the methods of ongoing evaluation, which some participants considered not fully significant. The involvement of external teachers and experts also appears to be a discreet but not dominant aspect. For the rest, the training experience of the XXXVII cycle is overall solid, consistent and well integrated with the research path.

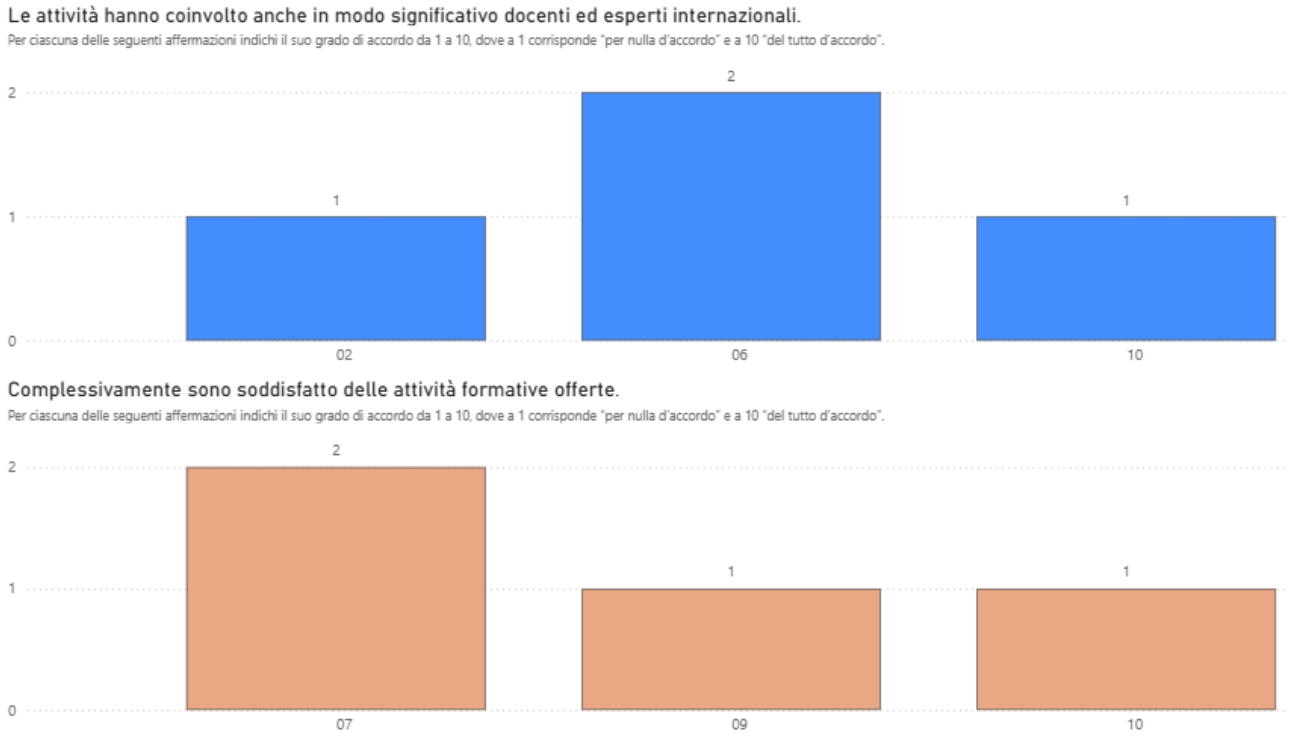

Figure 32. Section B, page 2.

The figure on page 2 of Section B shows two histograms that describe the perception of PhDs in the XXXVII cycle with respect to the involvement of external professors and experts and the overall satisfaction with the training activities.

In the first graph, relating to the statement that the activities also significantly involved international teachers and experts, the responses show a heterogeneous distribution but overall oriented towards positive evaluations. One participant gives a score of 2, indicating a limited experience in this respect, while two respondents place themselves on the value 6, expressing an intermediate-high judgment. On the other hand, one answer reaches the maximum score, equal to 10, confirming that at least one doctor has perceived a significant and fully satisfactory involvement of external and international figures. Although the overall number of responses is very small, the trend suggests that the contribution of experts not internal to the University has been appreciated, albeit with a level of heterogeneity linked to the different individual experiences.

The second graph, dedicated to overall satisfaction with the training activities offered by the PhD course, also shows a clearly positive trend. Two doctors give a score of 7, expressing good but not total satisfaction, while the remaining evaluations are close to or at the top of the scale: an answer of 9 and one of 10. The set of data therefore suggests that, despite some room for improvement, the training activities were perceived as of quality and well responsive to the needs of the participants, with an overall level of satisfaction that tends towards very high.

Figure 33. Section B, page 3.

The figure in Section B, page 3, collects five histograms that describe the perception of PhDs of the XXXVII cycle regarding supervision, the usefulness of the thesis and satisfaction with research activities and for any periods carried out at other institutions.

The total number of respondents is 4, and this makes the reading of the results particularly sensitive to individual experiences.

The first graph concerns the statement "The thesis supervisor was available and available". All evaluations are in the high range: 2 answers equal to 9 and 2 equal to 10. The picture is therefore unanimously positive, indicating a constant availability of the supervisor along the doctoral path.

The second chart considers the statement "The supervisor helped me build a network of scientific collaboration." Also in this case, perceptions are polarized on two extremes of the high range: 2 answers equal to 1 and 2 equal to 10. This highlights a large gap in individual experiences: while two doctors perceived full and effective support in building collaborative networks, two others experienced a total absence of this type of support. It is therefore a critical point, not so much for the average of the evaluations, but for the significant heterogeneity of the experiences.

The third graph analyzes the statement "The thesis was useful for me to learn how to structure and communicate the results of my work". Here a uniform result emerges: all 4 respondents attribute the value 10. The experience of writing and defending the thesis was therefore perceived as extremely formative by everyone.

The fourth graph concerns the overall level of satisfaction with the period of study or research that may have been carried out at other institutions. The evaluations are distributed in a balanced way: 2 answers equal to 6 and 2 equal to 10. This suggests that those who have spent a period abroad (or at

external institutions) have lived very different experiences, with two evaluations fully satisfied and two more moderate.

Finally, the last graph examines the statement "Overall I am satisfied with the research activities related to my doctoral thesis". Here too, the answers are all in the high range: 2 evaluations equal to 8 and 2 equal to 10, outlining a very positive perception of the quality and consistency of the research activities carried out during the PhD.

Overall, the figure gives a decidedly favorable picture, with a very high level of satisfaction with regard to the availability of the supervisor, the usefulness of the thesis and the quality of the research activities. The only real critical issue concerns the support for the construction of networks of scientific collaboration, where a marked inhomogeneity in individual experiences emerges. However, given the small number of respondents, these differences are likely to reflect specific situations rather than a structural problem with the pathway.

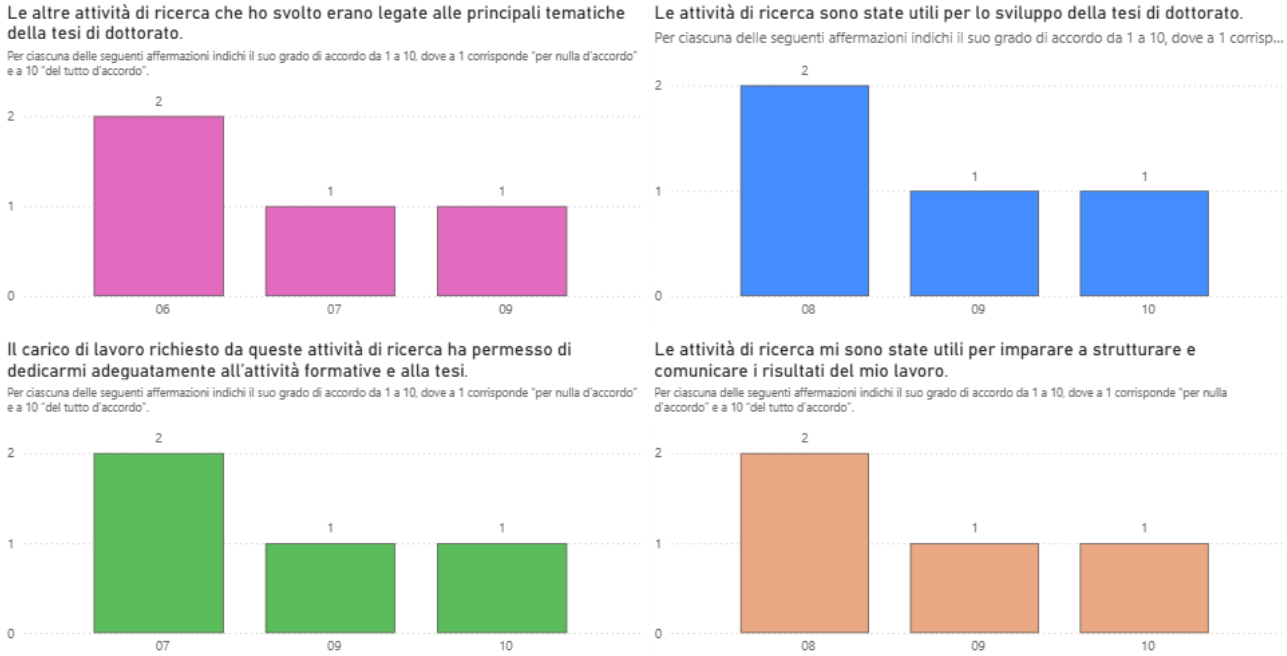

Figure 34. Section B, page 4.

The graphs on page 4 show the perceptions of PhDs regarding the other research activities carried out during the course and their impact on the thesis work and general training.

The first graph, relating to the statement "The other research activities I carried out were related to the main topics of the doctoral thesis", shows a distribution of scores concentrated in the medium-high range: two answers equal to 6 and one respectively equal to 7 and 9. There are no low evaluations, which indicates that all respondents believe that the extra-thesis activities were at least partially consistent with their research project. However, the variability in scores suggests that the level of perceived integration was not uniform among PhD students.

In the second graph, relating to the usefulness of these activities for "the development of the doctoral thesis", the scores show a positive trend: two answers equal to 8 and one equal to 9 and 10 respectively. Again, there are no critical evaluations and the general perception is that the research experiences have contributed significantly to the advancement of the thesis.

The third graph analyzes the statement "The workload required by these research activities allowed me to devote myself adequately to the training activity and the thesis". The distribution of scores is more heterogeneous: two answers equal to 7, one equal to 9 and one equal to 10. While indicating an overall good balance between research commitments and the rest of the activities, the presence of a lower score suggests that at least one PhD student perceived a less optimal load, although not arriving at a negative judgment.

Finally, the fourth graph assesses the usefulness of research activities to "learn to structure and communicate the results of one's work". Here too a positive picture emerges: two answers equal to 8 and one respectively equal to 9 and 10. All respondents recognized a concrete training benefit, indicating that these activities effectively supported the development of methodological and communication skills.

Overall, the page outlines a very positive picture: additional research activities are perceived as coherent, useful and capable of contributing both to scientific growth and to the preparation of the thesis. The few variations in scores mainly reflect personal differences in experiences, without highlighting structural criticalities.

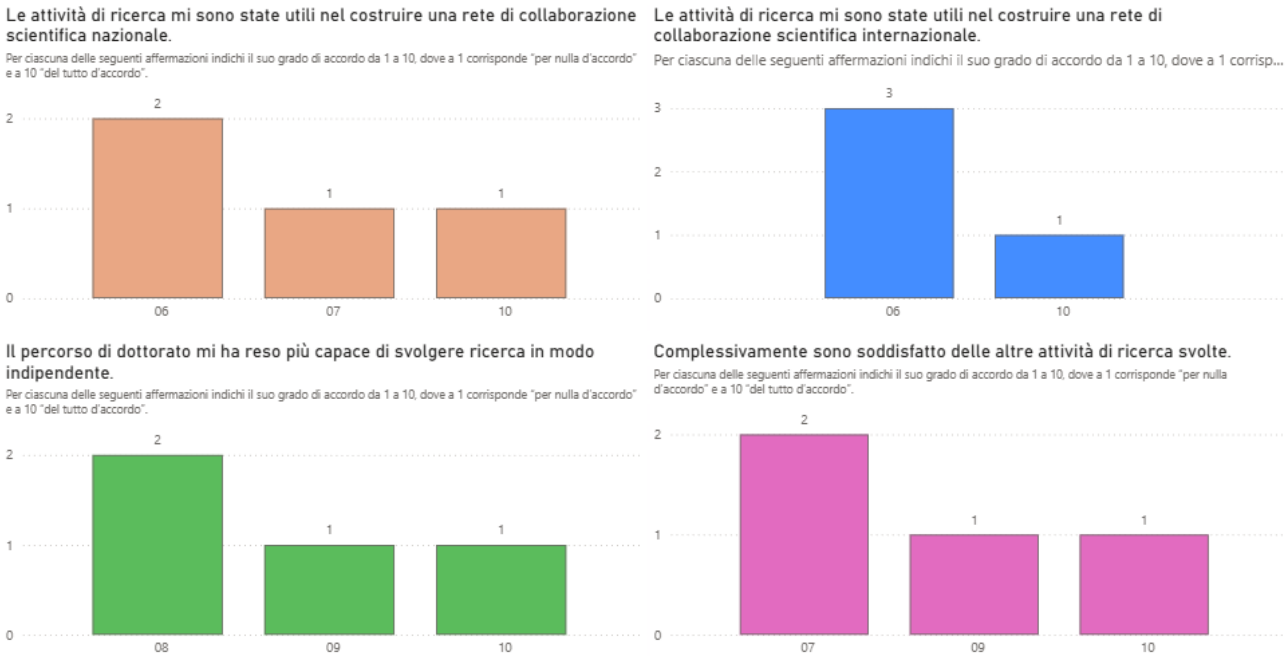

Figure 35. Section B, page 5.

The figure in this section presents four histograms that describe the degree of agreement expressed by the PhD students regarding the research activities carried out during the course. The first graph

concerns the usefulness of research activities in building a network of national scientific collaboration. The answers are distributed between 6, 7 and 10, with two PhD students indicating 6 as the level of agreement and one case for scores 7 and 10 respectively. The overall picture suggests that, despite varying levels of involvement, most participants benefited from building scientific relationships across the country.

The second graph focuses on the ability of research activities to foster the construction of a network of international scientific collaboration. In this case, the judgment is even clearer: three of the four doctoral students expressed a level of agreement equal to 6, while one chose 10. The trend indicates that the experiences gained have had a significant impact in fostering openness to international research contexts, perceived as highly relevant for the training course.

The third graph shows the opinion of PhD students on the ability of the PhD course to make them more autonomous in carrying out their research activity. The answers are placed exclusively in the high range: two PhD students indicated 8, one indicated 9 and one 10. This trend highlights a very clear educational effect, with a unanimous consensus on growth in terms of independence, scientific maturity and ability to independently manage research projects and activities.

Finally, the last graph shows the level of overall satisfaction with respect to the other research activities carried out during the PhD. Also in this case the evaluations are positive, with two answers equal to 7, one equal to 9 and one equal to 10. A general perception of appreciation and usefulness of complementary or additional activities with respect to the thesis is therefore confirmed, which are consistent and functional to the professional growth path of the participants.

Overall, this section highlights a strongly positive picture: research activities have contributed both to the construction of scientific collaborations – national and international – and to the development of autonomy and personal satisfaction of PhD students, confirming the effectiveness and coherence of the training experience lived.

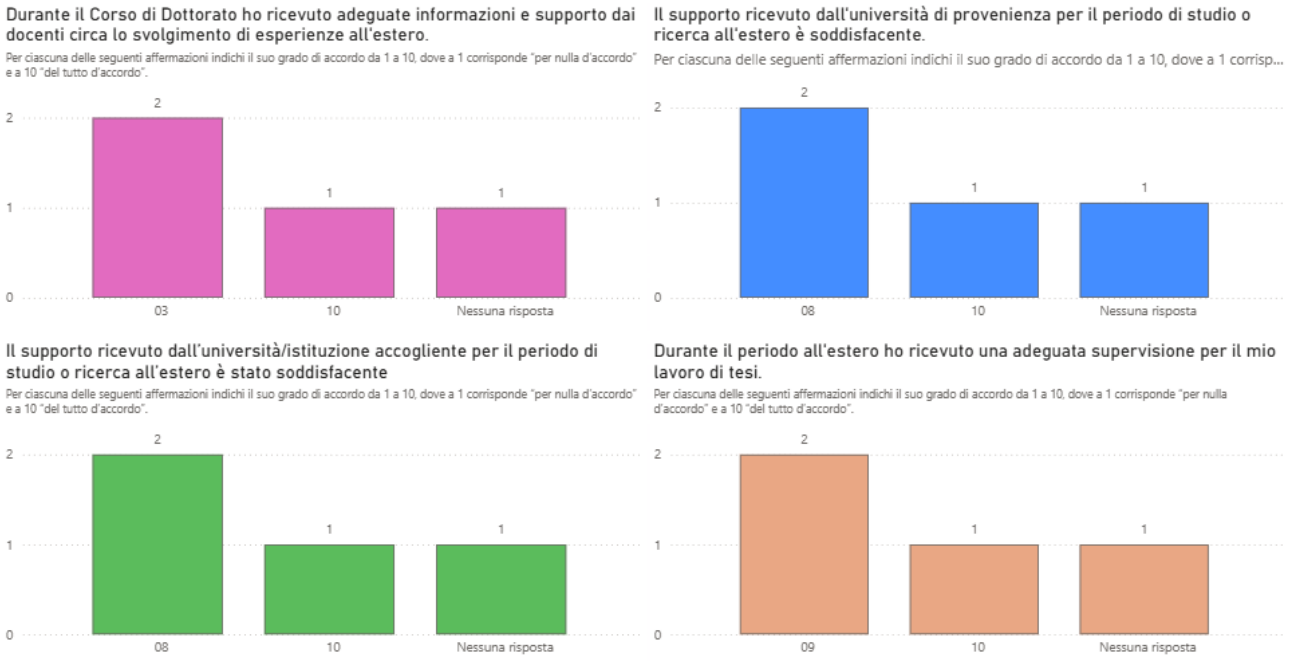

Figure 36. Section B, page 6.

The sixth page of Section B presents four graphs that describe the perception of PhD students regarding the support received before and during their experiences abroad. The picture that emerges is articulated, with heterogeneous responses but still oriented towards positive evaluations.

In the first graph, relating to the availability of information and support from professors for carrying out international experiences, the answers are distributed between medium and high values: two PhD students indicated a score of 3, while one gave a 10 and another did not provide an answer. While not unanimously high, the assessment suggests that some respondents perceived an adequate level of accompaniment, while another segment experienced more limited or fragmented support.

The second graph, dedicated to the support offered by the home university, shows a more marked trend towards favorable judgments: two doctoral students assigned a score of 8, while one indicated 10 and another did not respond. The figure confirms an overall appreciation of the administrative and organizational service provided by the university, perceived as satisfactory by the majority.

As regards the support received by the host institution during the period abroad, the answers remain consistent with the trend of the previous graphs: two PhD students evaluated the experience with a score of 8, one indicated 10 and one did not provide an answer. The general impression is that the reception and support received at the international facilities were considered adequate, with a stable level of satisfaction and without significant criticalities.

The last graph analyzes the supervision received during the research activity abroad. Again, a balance emerges between high and very high ratings: two answers indicate 9, one answer indicates 10 and one is absent. The evaluation confirms a good quality of the relationship with the foreign supervisor, perceived as present and useful for the development of the thesis work.

Overall, despite some missing answers and a single lower value, the page gives a positive picture: PhD students who have spent a period abroad report satisfactory experiences both in terms of preliminary support and accompaniment during their stay, with a generally favorable evaluation of the role played by professors, administrative structures and host institutions.

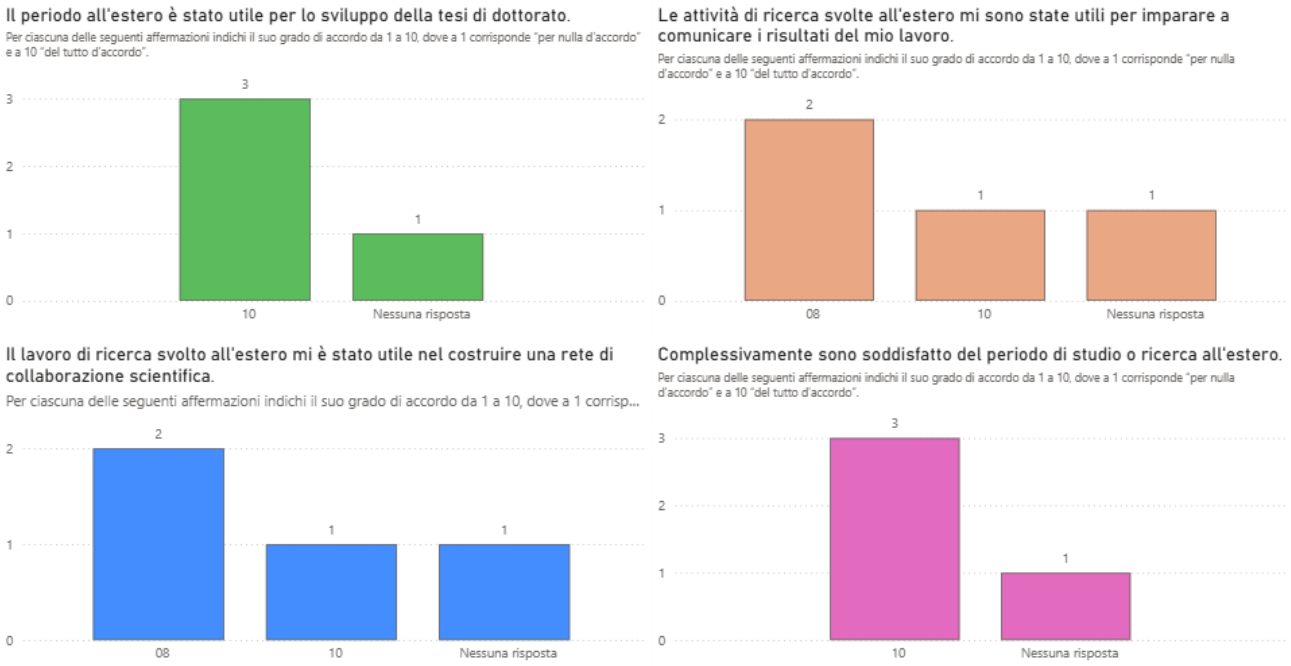

Figure 37. Section B, page 7.

The figure on page 7 explores the perception of PhDs regarding the study or research experience carried out abroad, with particular attention to its usefulness for the development of the thesis, professional growth and overall satisfaction gained during the stay away from home.

The first graph shows very clearly that the period spent abroad was considered extremely useful for the development of the doctoral thesis: three respondents assigned the maximum value (10), while only one did not express any answer. There are no intermediate evaluations, confirming a strongly positive opinion from all those who responded.

The second graph concerns the usefulness of research activities carried out abroad in learning how to communicate the results of one's work. Also in this case the picture is positive: two respondents indicated the value 8, while one expressed himself with a 10 and another did not provide an answer. The distribution confirms a general perception of usefulness, albeit with a slight variability deriving from the fact that not everyone has assigned the maximum rating.

The third graph assesses how useful the research work carried out abroad has been in building a network of scientific collaboration. Here we observe a slightly more diversified perception: two answers correspond to the value 8, while one is equal to 10 and another falls under the non-answers. Although with some individual differences, the overall judgment is still positive.

Finally, the summary graph explores the general satisfaction related to the period of study or research abroad. The results are very clear: three participants assigned the maximum rating (10), while the fourth did not respond. The total absence of low or average ratings testifies that the experience abroad was considered highly satisfactory by all those who actually evaluated it.

Overall, the page shows a decidedly positive picture: both the research activity and the entire path carried out abroad have contributed significantly to scientific development, personal growth and the construction of advanced skills, with very high levels of satisfaction and very few uncertainties or criticalities.

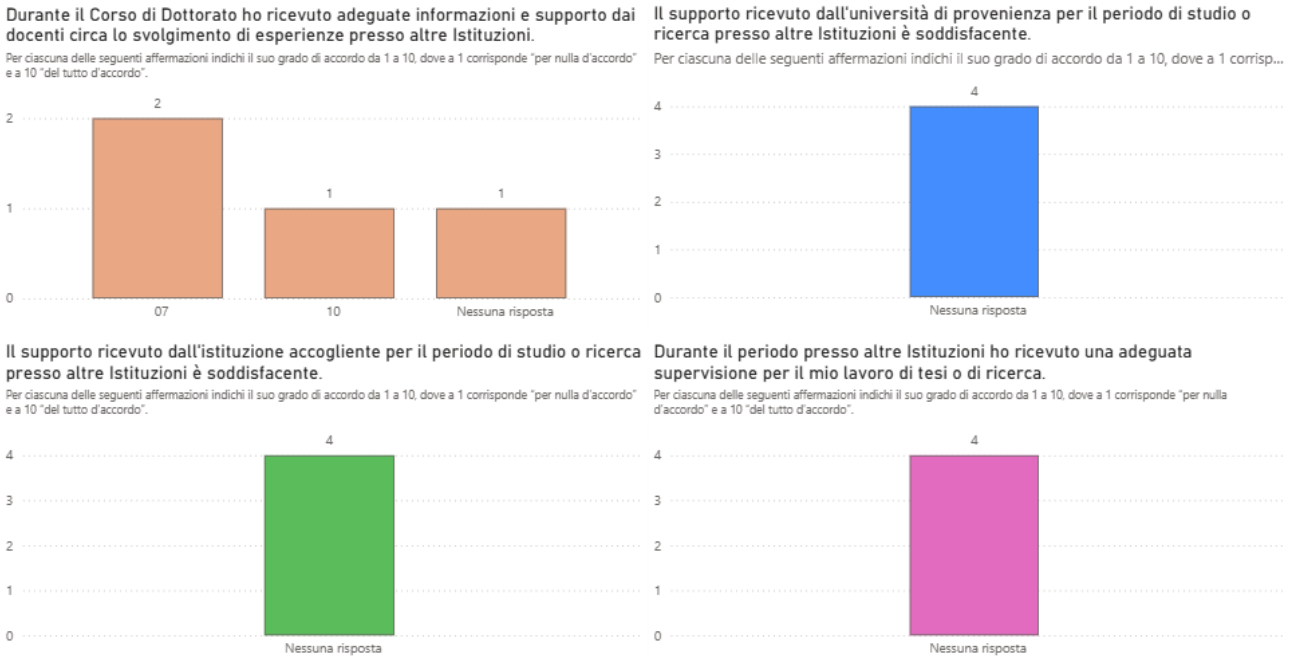

Figure 38. Section B, page 8.

The figure on page 8 shows four graphs that deal with the quality of support received during any periods at other institutions. In this case, however, a very clear and transversal fact emerges: all four PhDs did not answer the questions. In fact, the histogram bars show a number of answers equal to zero for all options, with the only valued category represented only by "No answers".

In the first graph, dedicated to the availability of information and support from teachers to carry out experiences at other institutions, it can be seen that no evaluation was provided: two participants were on "no answer", while only two expressed scores (07 and 10), respectively with two and one answer. However, the overall picture remains extremely fragmented, with half of the sample not filling in the article.

A similar situation can be found in the second graph, relating to the support of the university of origin to carry out the external period: all four participants are placed on "no answer", without providing evaluations. The graph therefore shows a total absence of interpretable data.

The same pattern is repeated with regard to the support received from the host institution: here too all four answers fall on "no answer", preventing any qualitative or quantitative reading of the experience. Finally, also for the adequacy of supervision received during the period at other institutions, the graph shows all four responses concentrated on "no responses", with no indication of satisfaction levels.
Overall, the page shows that the four doctors of the XXXVII cycle did not fill in the section relating to the period at other institutions, probably because they did not carry out research or study activities outside the university, or because the question was not relevant to their path. It follows that the figure does not allow any interpretation on the effectiveness of internal or external support, limiting itself to recording a total absence of useful data.

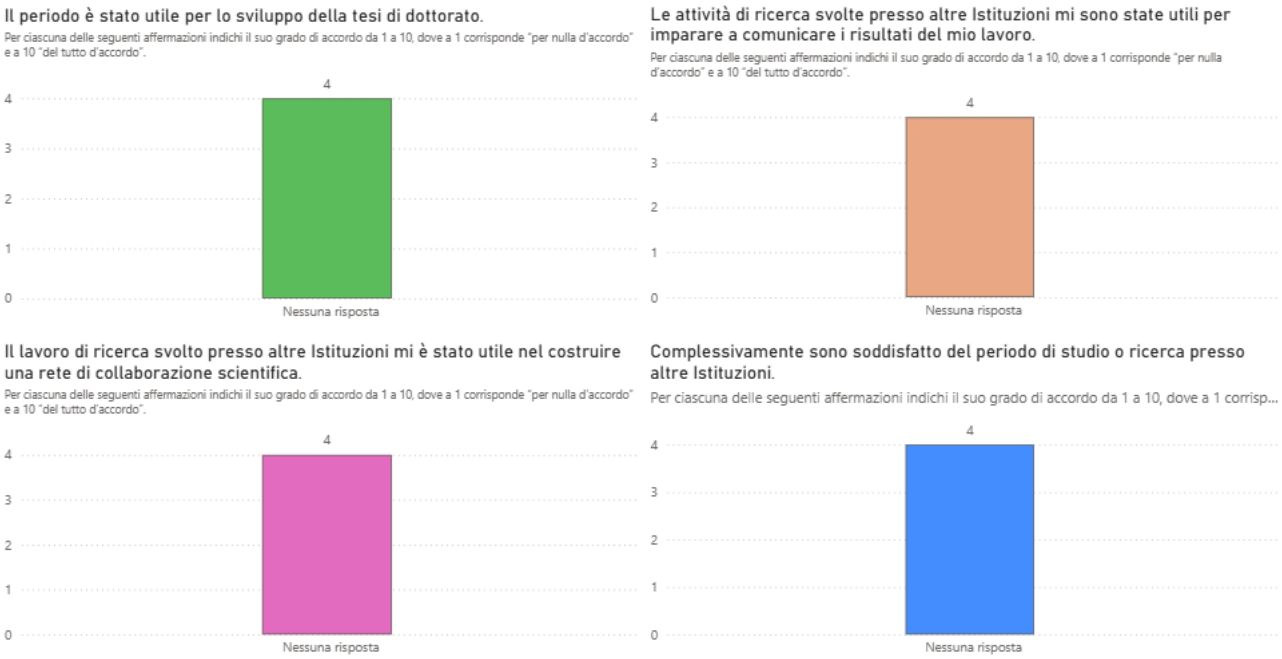

Figure 39. Section B, page 9.

The figure on page 9 concerns only PhDs who have actually spent periods at other institutions, but in this case a central element immediately emerges: all four interviewees left the question unanswered in each graph.
In the first histogram, dedicated to the statement "the period abroad was useful for the development of the doctoral thesis", all four units are recorded as "no answer", without any score assigned. This behavior is also repeated identically in the graph relating to the usefulness of research activities carried out at other institutions to learn how to communicate and present results: here too, none of the PhDs expressed an evaluation.
The same trend is evident in the third graph, dedicated to the contribution of external experiences in the construction of a network of scientific collaboration: all four answers flow back into the "no answer" category, without any numerical value.

Finally, the fourth histogram on the overall satisfaction of the period spent at other institutions definitively confirms the picture: also for this item, all four participants did not provide any evaluation, leaving the entire graph focused only on the non-answer bar.

Overall, page 9 highlights a very clear aspect: although the questions concern central aspects of the experiences carried out off-site, none of the PhDs involved provided feedback on these dimensions. This may suggest that these experiences were not actually carried out by them, or that they did not consider answering the corresponding questions. Consequently, the page does not allow you to draw considerations on the level of usefulness, satisfaction or impact of the activities carried out at other institutions, but rather points out the total absence of data useful for evaluation for these specific items.

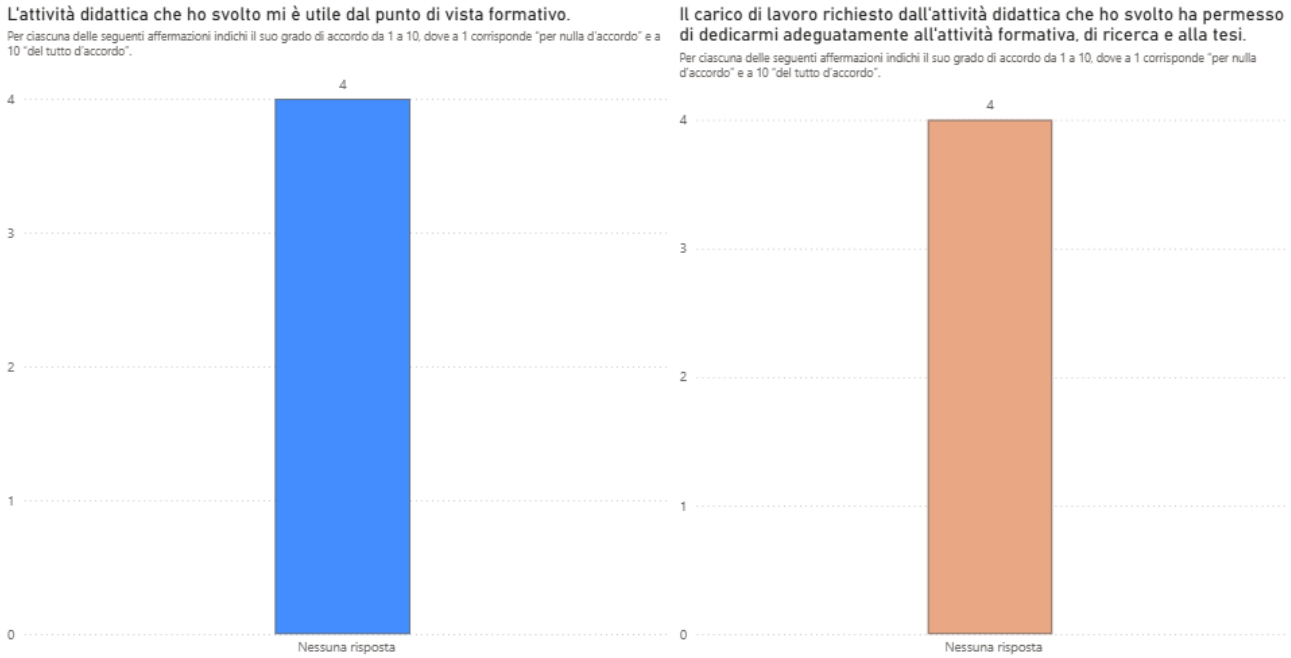

Figure 40. Section B, page 10.

The figure on page 10 completes the picture relating to the teaching activities carried out by the PhDs of the XXXVII cycle. Also in this case, as observed in the previous pages dedicated to external experiences, a recurring fact emerges immediately: all four interviewees selected only "no answer" for both proposed items.

In the first graph, dedicated to the statement "The teaching activity I have carried out is useful to me from an educational point of view", the entire histogram is occupied only by the bar of non-answers, with a total of 4 reports in that category and no score attributed along the scale from 1 to 10. This does not allow us to understand whether the teaching experience was perceived as formative or not, and suggests that the interviewees did not carry out teaching activities or did not consider answering the question.

The exact same trend can be found in the second graph, which evaluates the statement "The workload required by the teaching activity allowed me to devote myself adequately to the training, research and

thesis activities". Again, all four PhDs selected the 'no answer' option, leaving the score scale blank and preventing a reading on the balance between teaching and research activities.

Overall, page 10 confirms the main feature that emerged in the previous sections: the total absence of evaluation data, which makes it impossible to draw any indication on the impact or perception of educational activities. It is plausible that the doctoral students did not carry out teaching activities or that these activities were not formally part of their path, but this cannot be stated with certainty in the absence of explicit answers. The page, consequently, reports more the lack of information than an evaluation, and closes the section by highlighting a complete absence of feedback on this specific training area.

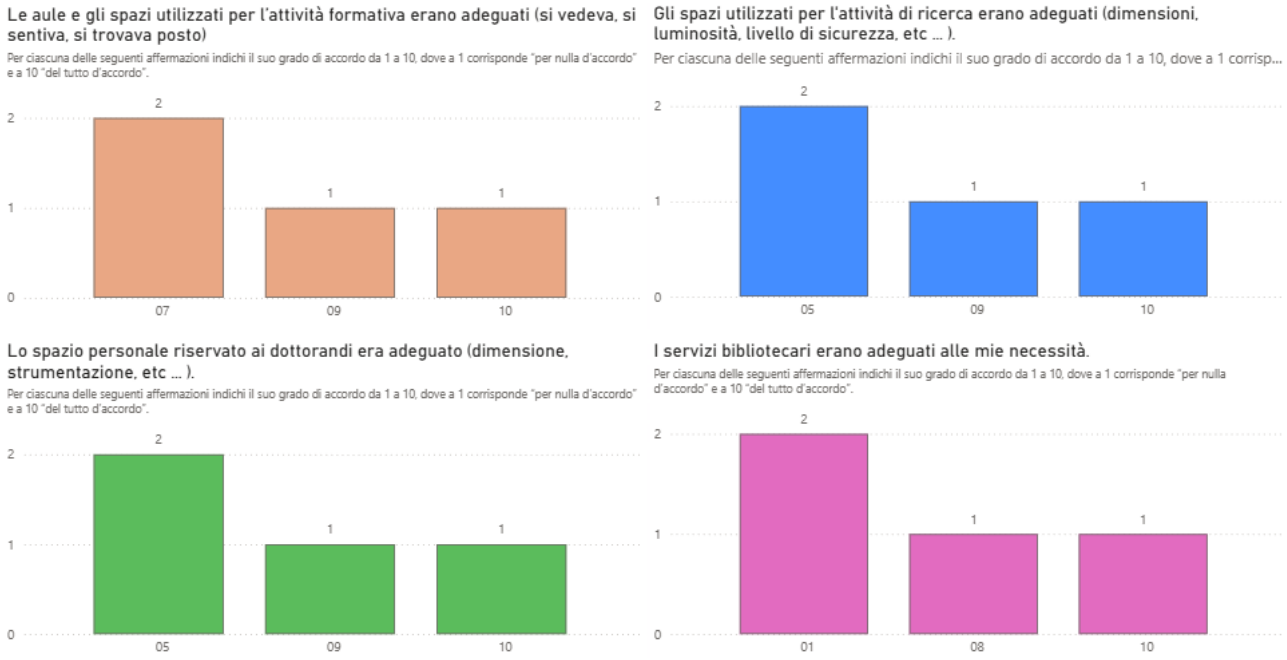

Figure 41. Section B, page 11.

The figure on page 11 gives an articulated, but overall positive, picture of the quality of the spaces and services made available to the PhD students of the XXXVII cycle. The evaluations relating to the classrooms and environments used for teaching show a distribution that is placed exclusively in the medium-high range of the scale: two answers give a score of 7, while the remaining are divided equally between 9 and 10. This configuration suggests that the spaces intended for frontal training are perceived as adequate and functional, with a substantially uniform level of satisfaction and without significant criticalities.

A similar trend emerges in the judgment on the spaces allocated to research activities, which focuses entirely on scores 5, 9 and 10. Although the lower value represents an isolated element, the remaining responses indicate a generally positive perception, with particular appreciation for the structural and functional aspects considered most relevant for the experimental and individual in-depth activities.

As regards the personal space assigned to doctoral students, the distribution of scores — two evaluations of 5 and one of 9 and 10 respectively — shows a more heterogeneous perception than the previous elements, with a part of the respondents judging the work area sufficient, but not entirely optimal, and another considering it fully adequate. This reveals a possible variability between the different logistical arrangements or between the individual needs of doctoral students.

Finally, the judgment on library services shows an overall favorable evaluation, distributed between scores 1, 8 and 10. The presence of a very low response represents an isolated case, while the other values indicate that, for most doctoral students, access to bibliographic resources and information tools satisfactorily meets the needs of study and research.

Overall, the page shows a good level of adequacy of spaces and services, with some punctual differences that do not affect the generally positive perception of the training and research environment.

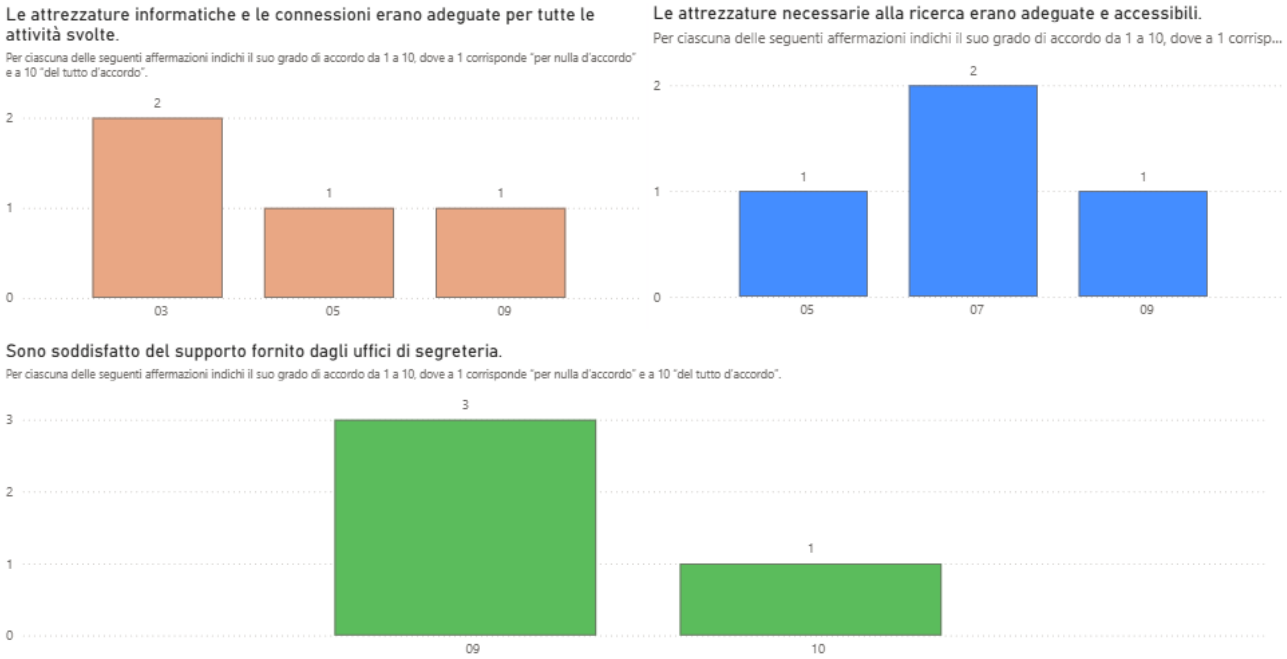

Figure 42. Section B, page 12.

On this page, evaluations emerge regarding the quality of IT resources, research equipment and administrative support. Also in this case, the answers of the four PhDs are few but very indicative, and show a fairly outlined trend.

The first graph concerns the statement that "computer equipment and connections were adequate for all activities carried out". The answers are distributed between only three values: two doctors assign a 3, while the other two assign a 5 and a 9. The presence of two medium-low evaluations suggests that for half of the group the IT equipment was not fully satisfactory, while for the other two the level of perceived adequacy was acceptable or good. The overall picture is therefore varied, with a balance between those who have encountered difficulties and those who consider the service adequate.

In the second graph, however, it is assessed whether "the equipment necessary for the research was adequate and accessible". Here the answers are slightly more oriented towards the positive area: one doctor gives 5, two assign 7, while one expresses a judgment of 9. The majority therefore indicates a medium-high level of satisfaction, indicating that the equipment for research activities was overall usable and adequate, albeit with a case that expresses a more moderate evaluation.

The last graph concerns satisfaction with the support provided by secretarial offices. In this case, perceptions are clearly convergent: three answers are equal to 9 and one equal to 10. The figure is particularly significant, because it shows an almost unanimous and very high level of satisfaction. The secretariat therefore appears as one of the most appreciated elements of the entire experience, recognized for efficiency, availability and quality of service.

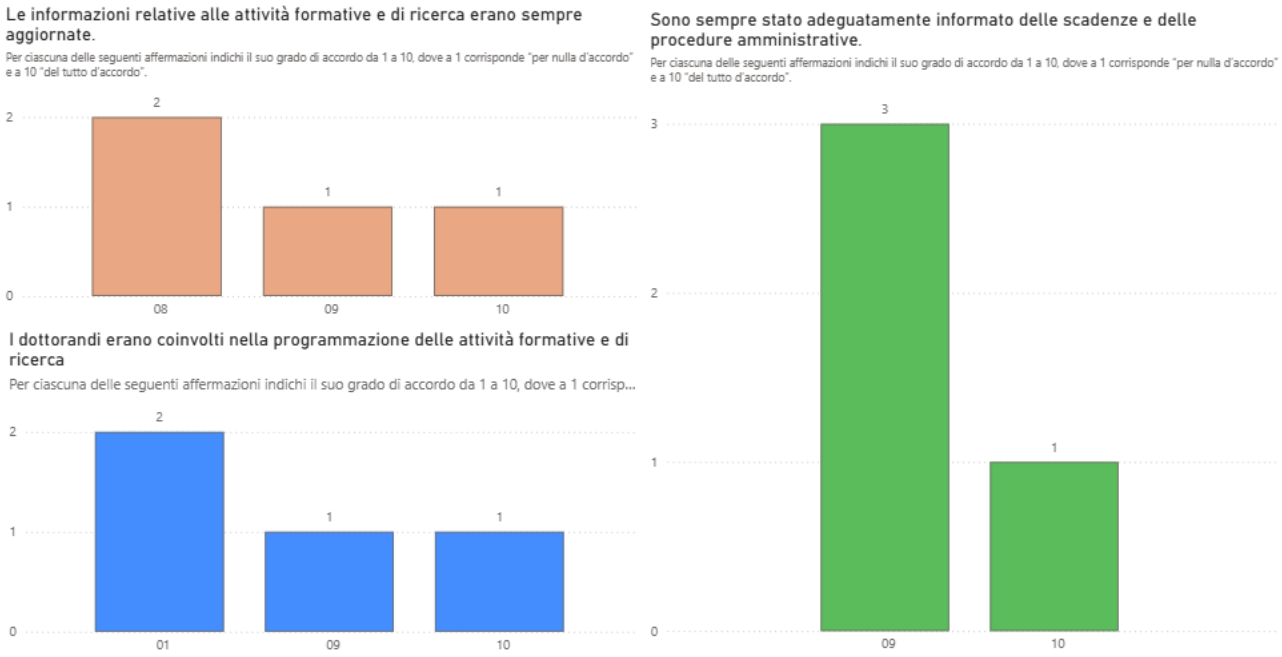

Figure 43. Section B, page 13.

The information relating to training and research activities is, in the general perception, sufficiently updated and clearly shared, even if some individual differences emerge in the frequency and timeliness with which such communications have been received. Some doctoral students recognize a good constancy in the dissemination of information, while others report a less punctual level of updating, indicating margins for improvement in the coordination and regularity of communication flows. This heterogeneity probably reflects the variety of personal experiences, the research groups involved and the channels used.

The issue of the involvement of doctoral students in the planning of training and research activities also provides an articulated picture. Some report that they participated in a more active or consultative way, while others appear to have played a more marginal role, with limited or episodic involvement. Overall, the experience indicated is that of a system that, while giving space to participation, does not

always succeed in making it systematic or structured. This suggests the opportunity to formalize the moments of discussion more, so as to ensure a wider and more continuous participation.

The perception regarding administrative communication, on the other hand, is decidedly positive: most respondents say they have been adequately informed about the deadlines, procedures and obligations required during the process, with a level of clarity and punctuality that has facilitated the management of bureaucratic practices. This element is particularly significant, since the administrative component often represents one of the main critical issues in doctoral courses; The fact that it was managed effectively helps to strengthen the overall judgment on the organization of the course.

Overall, the page highlights a positive and functional experience, in which the strengths focus on the quality of administrative communication and the availability of essential information, while there is still some room for improvement in the continuity of the involvement of doctoral students and in the constancy of updating educational and scientific communications.

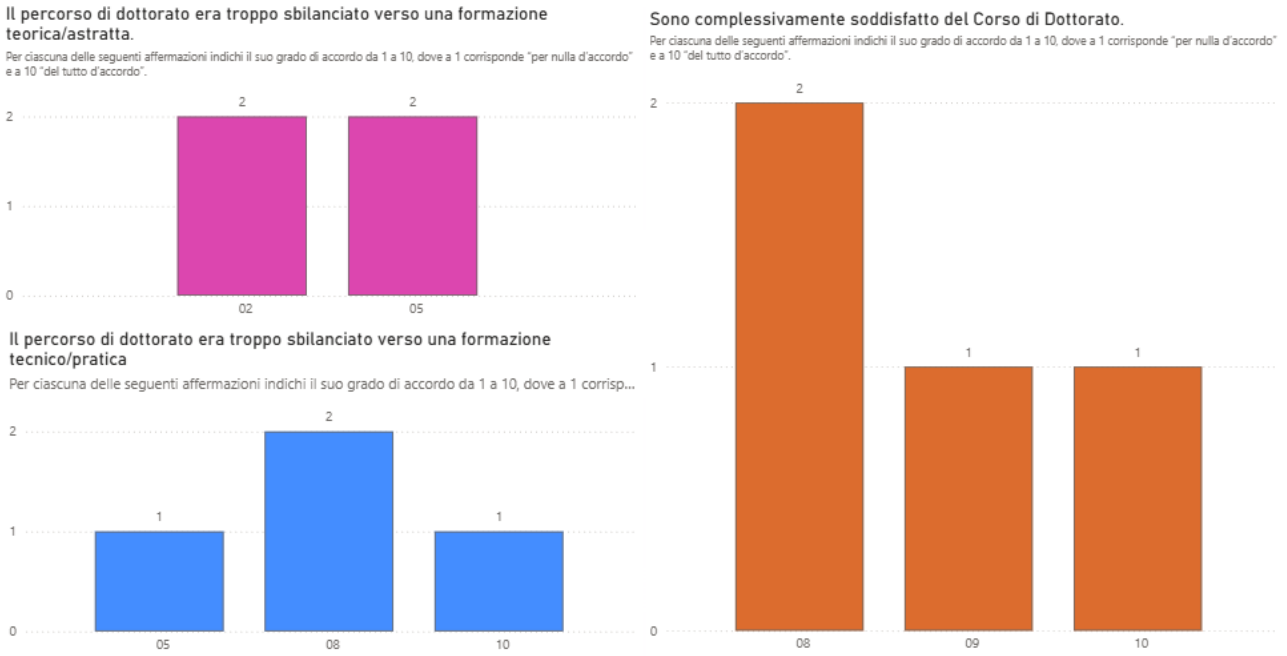

Figure 44. Section B, page 14.

Page 14 collects the overall evaluations on the balance of the training course and on the degree of satisfaction with the PhD Course. As for the statement that "the PhD course was too unbalanced towards theoretical/abstract training", the answers focus on medium-low values: two PhDs indicated 2 and two indicated 5. Overall, therefore, the perception of an excess of theory does not emerge, but rather a tendentially neutral judgment, with a slight prevalence of disagreement with respect to the idea of a path that is too abstract.

The situation is different for the specular statement, "the doctoral course was too unbalanced towards technical/practical training". In this case, the evaluations are distributed over 5, 8 and 10 (respectively

one, two and one respondent), with a polarization towards the highest values. This indicates that a substantial part of the respondents perceive the path as strongly oriented towards application and practical activities, sometimes to the point of being unbalanced in this direction.

Despite this perceived asymmetry, the overall judgment on the PhD Course remains very positive: all respondents express high satisfaction scores, with two evaluations of 8, one equal to 9 and one equal to 10. This suggests that, while recognizing a certain imbalance in favor of the technical-practical component, the PhDs of the XXXVII cycle consider the training course to be satisfactory and consistent with their expectations.

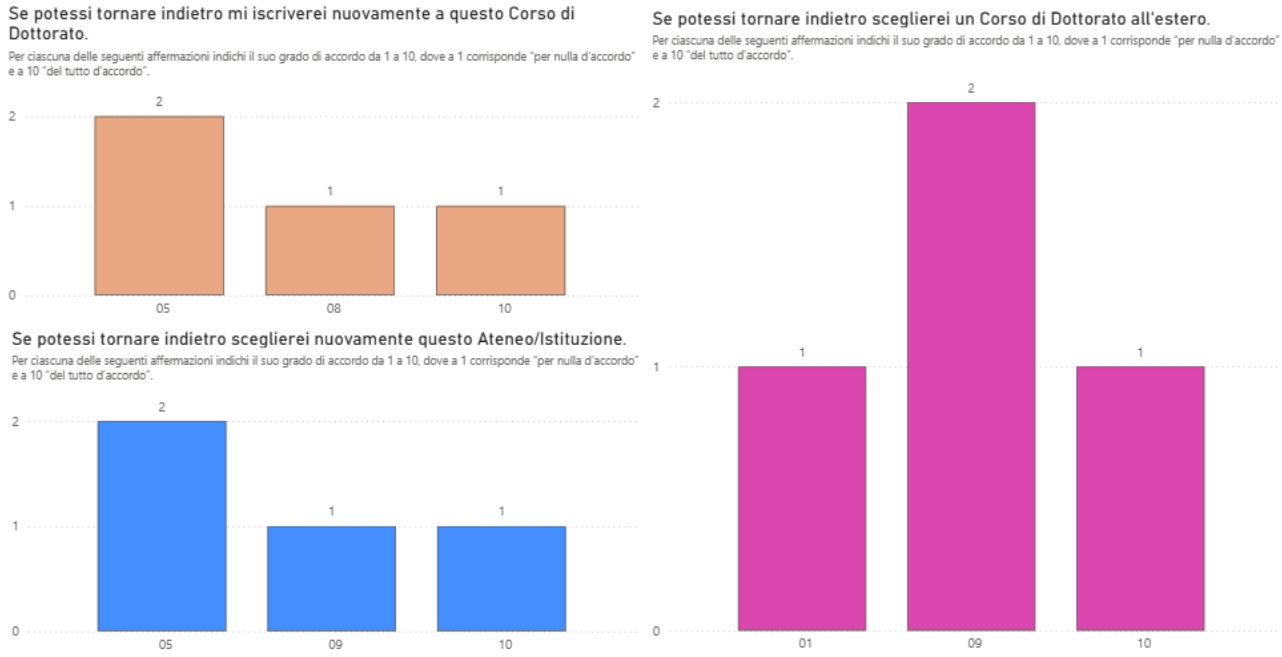

Figure 45. Section B, page 15.

In the last section of the questionnaire, particularly interesting perceptions emerge, because they concern the propensity to repeat the experience, which represents one of the most reliable indicators of the overall level of satisfaction. The three questions investigate different aspects of the same dimension, the perceived value of the course, the quality of the University and the attractiveness of abroad, and the results, despite their variability, describe a balanced picture, in which most of the participants are positive but with a certain degree of prudence.

With respect to the possibility of re-enrolling in the same PhD Programme, medium-high grades prevail, with answers distributed around values 5, 8 and 10, and a slight concentration in the intermediate range. It is a sign that highlights a generally appreciated experience: those who have lived the path do not show signs of rejection or marked dissatisfaction, but on the contrary show a level of adherence that, while not always going to the most enthusiastic extremes, suggests that the experience has been evaluated as useful and formative.

Similar is the perception regarding the possibility of choosing the same University or Institution again, which shows a positive trend with a preference for medium and high values, confirming that the university context has been perceived as adequate, reliable and consistent with the expectations of doctoral students. The answers reveal an overall trust in the academic environment, albeit with nuances that indicate the presence of aspects that can be improved but not such as to compromise the experience.

Finally, the question relating to the possibility of choosing a PhD abroad returns an interesting scenario: most of the answers focus on the high values, with a peak of 9 and answers in any case distributed in the positive range. This suggests that the idea of an international experience exerts an evident fascination and that, although they have positively evaluated the path taken, the participants recognize in the foreign context an additional opportunity in terms of openness, prospects and educational quality. This is not a negative judgment of the current doctorate, but rather a recognition of a potential enrichment that many, if they could go back, would seriously consider.

Overall, the data on the final page show a high level of satisfaction, combined with the awareness that the international experience represents an important added value. The course and the University are appreciated, but the interest abroad underlines the desire for increasingly open, dynamic and oriented paths towards the global dimension of research.