

STEM Doctoral Students' Perceptions of Program Policies, Degree Requirements, and Available Supports

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CLEAR

Creating Learning Environments
for Advancing Researchers

Graduate students benefit from structured learning environments where program policies are clear, degree requirements are transparent, and program supports are widely available (Mendoza-Denton et al., 2018). However, doctoral students can often experience graduate school with a sense of ambiguity around expectations and guidelines (O'Meara et al., 2017). Using survey data from the Council of Graduate Schools' (CGS) Creating Learning Environments for Advancing Researchers (CLEAR) project, this brief provides insight into how STEM doctoral students experience their learning environments and ways in which programs can make the graduate experience easier to navigate.



Key Takeaways

- Approximately 70% of respondents reported that their doctoral program **provides feedback at key degree milestones**.
- Two-thirds of students indicated that their program provides **regular opportunities between key milestones to get information** about program expectations, requirements, and/or policies.
- A majority of survey respondents reported that **their advisor provides consistent information** about formal degree requirements.
- The data show that **most students receive the same information** about degree policies and expectations across program events and published resources.
- While the majority of respondents indicated that their program provided people or resources within their program to help them regain momentum if they fell behind in their program, **43.6% of students either were unsure where to seek support or did not feel adequately supported when they got off track**.

Clarity of Program Policies

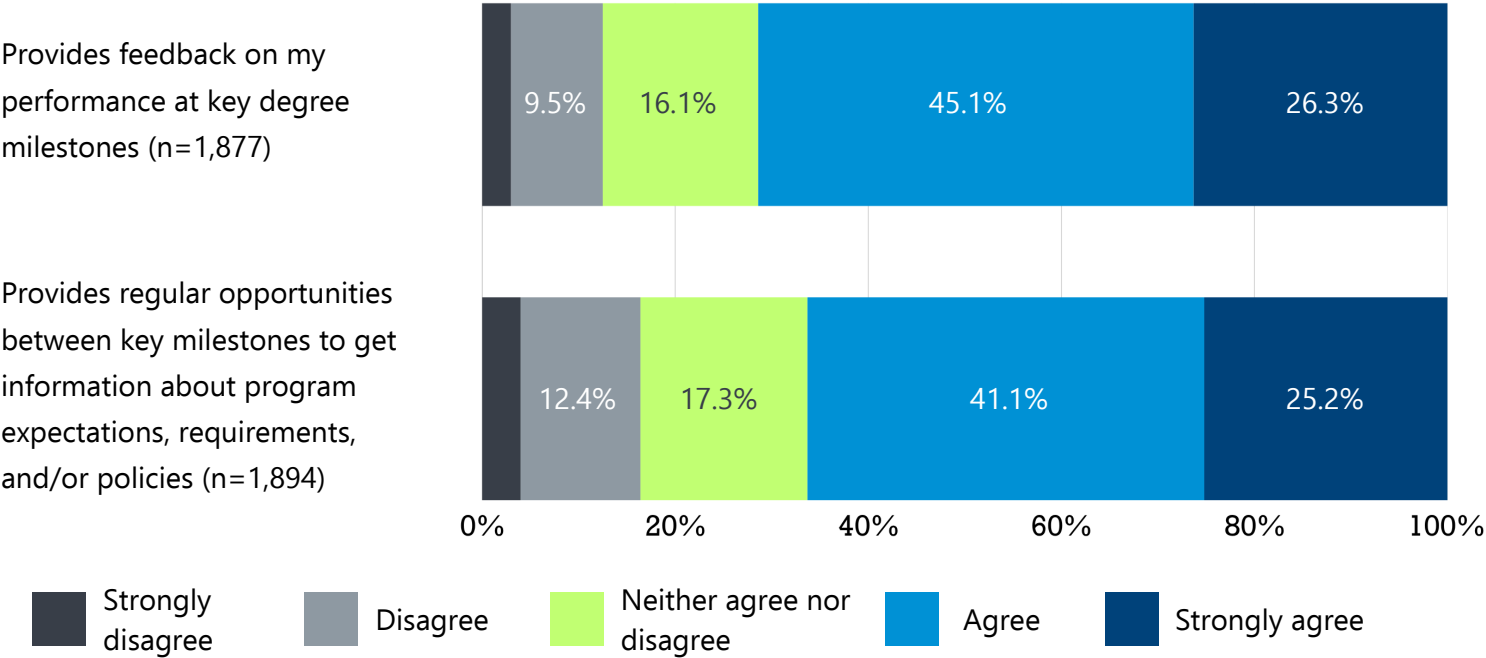
Survey responses point to openings where programs can articulate expectations and guidelines. Most students agreed (45.1%) or strongly agreed (26.1%) that their respective programs provide feedback at key degree milestones. However, slightly over one quarter of the students report otherwise. A slightly smaller proportion of students agreed (41.1%) or strongly agreed (25.2%) that their program provides regular opportunities between key milestones to get information about program expectations, requirements, and/or policies. See **Figure 1** below for additional details.

While the majority of students indicated their programs provided feedback and regular

opportunities to acquire program-related information, other students did not report feeling the same level of support, leaving room for programs to better articulate expectations for students. Programs have room to increase both the consistency with which they communicate with students as well as the frequency. Programs need to be sure to provide feedback at key points in the degree progression of students but also ensure that the communications around expectations and requirements are not provided exclusively at major milestones. For easy, on-demand answers, programs might implement solutions such as creating FAQs on their website to help students with common questions or employing chatbots to reply to policy-related inquiries.

Figure 1. Regularity of Program Communications

Level of agreement with the survey item, "My program...."



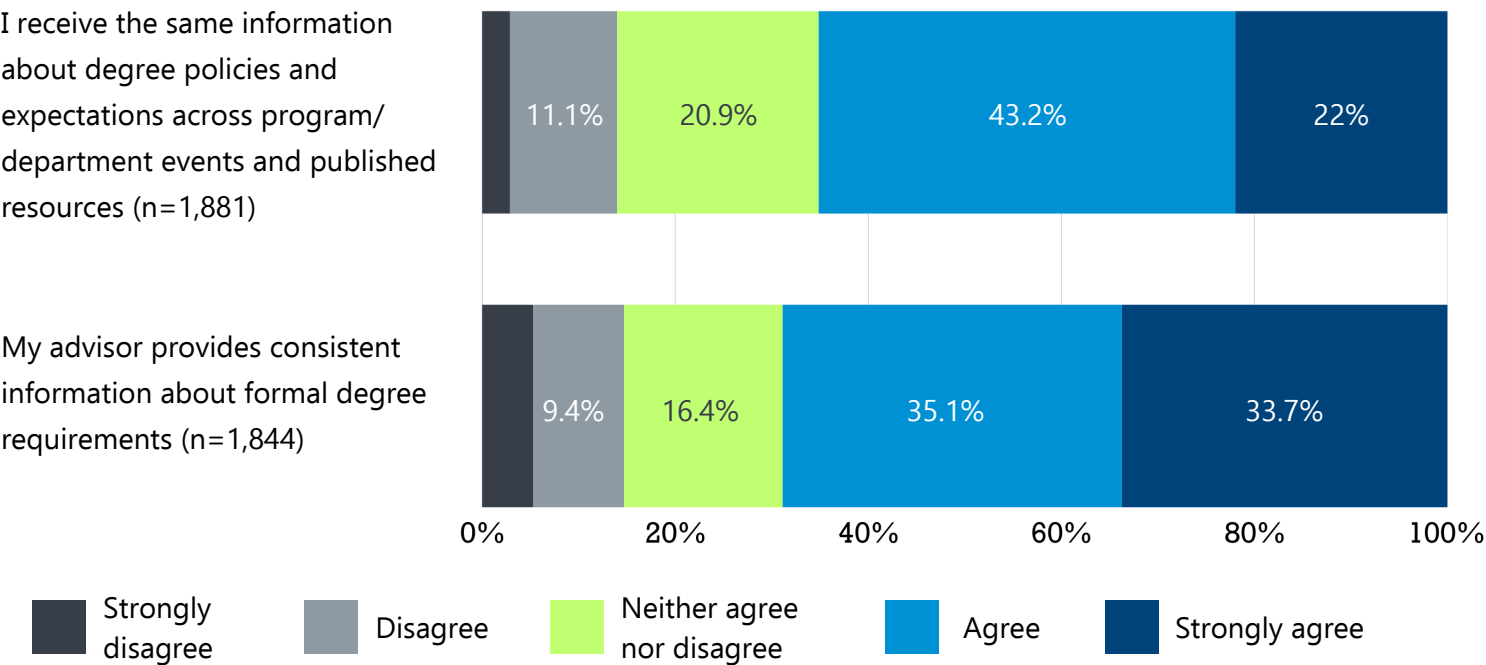
Consistency of Degree Requirements

Survey respondents were also asked about the consistency of information on degree policies, expectations, and requirements across channels. Roughly two-thirds of respondents, 65.2%, agreed or strongly agreed that they received the same information about degree policies and expectations across program/department events (e.g., orientation) and published resources (e.g., handbooks). Only a slightly greater proportion of respondents, 68.8%, agreed or strongly agreed that their advisor provides consistent information about formal degree requirements (**Figure 2**).

While most students had a positive perception of the consistency of information conveyed, some

students may benefit from more explicit direction. Creating a positive learning environment for all leads to better outcomes for both students and institutions, including increased student retention. First-generation students may particularly benefit from formal communication of implicit expectations and “hidden” curricula (Calarco, 2020; Gardner, 2008; Lovitts, 2007). As a result, programs may need to take steps to ensure that policies that are communicated verbally or through informal channels align with written policies found in handbooks or program websites. This may involve training faculty and staff to make sure they are current on official policies or inventories of written policies to confirm they are up to date across documents.

Figure 2. Reliability of Information
Level of agreement with the survey item...



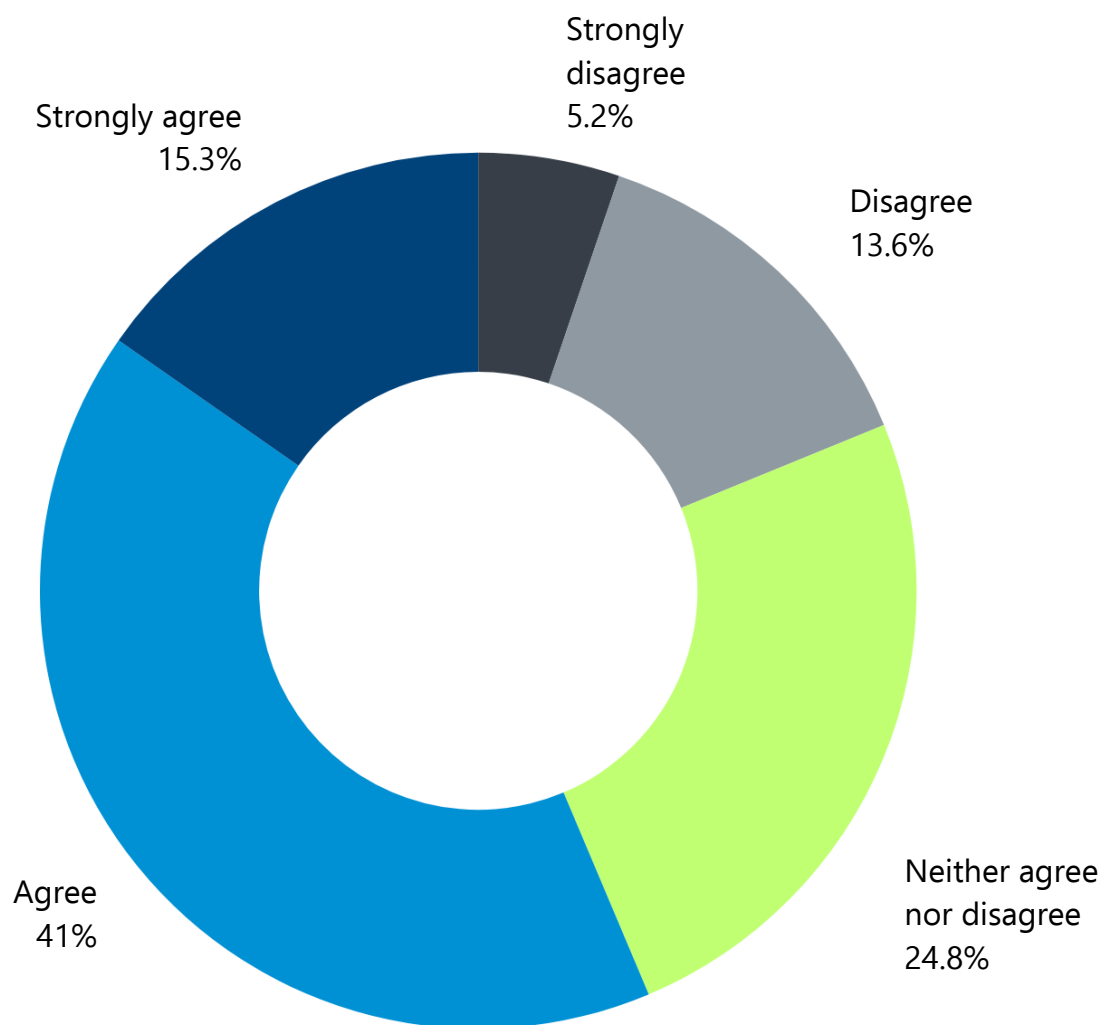
Availability of Program Supports

When asked if supports existed within their program to get them back on track if they were falling behind, respondents were split. Forty-one percent of respondents agreed, and 15.3% of respondents strongly agreed with 43% of respondents answering otherwise (**Figure 3**).

The results suggest that programs ought to be more proactive in communicating what resources exist for students who are behind or falling behind with respect to degree requirements. Programs may also make these resources available in easily accessible places such as the program's handbook or website.

Figure 3. Back on Track

Level of agreement with the survey item “If you are falling behind in your program, there are supports (e.g., people, resources) within your program to get you back on track.”



Implications for Institutions

Opportunities exist for STEM doctoral programs to better communicate their expectations to all students. Programs should aim to increase both the regularity of feedback and the frequency with which they articulate expectations, requirements, and policies. Routine feedback can lead to better student experience and decrease risk of attrition as regular review of progress is linked to student satisfaction (McAlpine et al., 2020).

The survey data highlight the need to increase the consistency of information related to degree policies, expectations, and requirements across channels. Written documents may need to be reviewed to confirm that policies are current across documents. Faculty and staff may also need routine training to stay up-to-date on policies and how and when to communicate updates to students.

Some STEM doctoral students perceive a lack of support from their programs. This underscores the importance of monitoring all doctoral students as they progress through the degree program. Such proactive methods allow programs to reach out to students before they begin to fall far behind in their work. Insufficient monitoring and support can lead to the alienation of students and potential withdrawal from the program (Alves et al., 2023). Programs should create and share resources that aid students in reorienting themselves if they get off track. These resources should be easily accessible.

About the Data Source

The CGS Creating Learning Environments for Advancing Researchers (CLEAR) Student Survey was distributed to current PhD students at ten universities and 124 doctoral programs between 2025 and 2026. This brief is based upon a subset of this aggregated data set and includes 1,911 doctoral students.

Conversation Starters for PhD Program Improvement

We encourage graduate schools to engage in campus conversations about how to best serve all doctoral students and improve learning environments. Questions you might consider asking your graduate school staff, college deans, and graduate program directors include:

- Are degree policies and guidelines communicated consistently across channels? Are published versions of program policies maintained and kept up to date?
- What training, if any, do faculty receive on mentoring and advising? What opportunities are available for training through the university or department?
- Do all students receive feedback at regular intervals including but not limited to degree milestones? Is there a standardized procedure through which they receive feedback?
- What methods are in place to identify PhD students who are in danger of falling behind or may have already fallen behind? What resources are available to get them back on track, and are they easily accessible by students?

The CGS Creating Learning Environments for Advancing Researchers (CLEAR) Coalition

CGS Creating Learning Environments for Advancing Researchers (CLEAR) is a multi-institutional project that examines the relationship between STEM doctoral program structure and student outcomes. Through common instruments and coordinated methods, data were collected from graduate students and faculty at 10 institutions selected by CGS as sub-awardees. The resulting data is allowing universities to analyze STEM doctoral student and faculty perceptions of departmental/program structures and norms and are intended as a tool and resource for program improvement in doctoral education.

Participating Institutions:

- City University of New York
- Colorado State University
- Stony Brook University
- Texas A&M University
- University of Arizona
- University of Denver
- University of Mississippi
- University of Missouri-Columbia
- University of Nevada-Reno
- University of New Hampshire

Additional Resources

CGS Program Inventory. The Program Inventory is a self-assessment intended to capture program practices associated with measures of structure, including transparency of policies and routing of questions and concerns, expectations for performance milestones through the doctoral degree, and expectations for mentoring. The inventory documents the extent to which policies and structures have been formalized and the extent to which they have been publicly communicated. The program inventory is available upon request at researchenvironments@cgs.nche.edu.

Supporting Fair and Inclusive Graduate Programs: A Resource for Faculty and Universities. A collaboration between CGS and the Equity in Graduate Education (EGE) Resource Center, the resource provides promising practices in graduate recruitment and admissions, inclusive program cultures, and mentoring. The resource includes examples of the ways that institutions are creating program environments that support success and belonging.

Guidelines for Graduate Field Academic Handbooks. In 2025, all graduate fields at Cornell University were required to review and update their handbooks. The Graduate School updated guidelines to include template language for key policy areas. Ready-to-use language was designed to be easily incorporated directly into each field's handbook to simplify the update process, reduce the workload for fields, and provide a clear pathway for accountability and due process.

Mentoring Graduate Students: A Guide of Mentors and Students. This guide offers advice for developing productive and satisfying relationships for mentors and students. The importance of communication is emphasized as well as the role of the mentor in demystifying graduate school for the mentee.

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About CGS

For over 60 years, the Council of Graduate Schools has been the only national organization dedicated solely to advancing master's and doctoral education and research. CGS members award 78.6% of all U.S. doctoral degrees and 59.0% of all U.S. master's degrees. CGS accomplishes its mission through advocacy, developing and disseminating best practices, and innovative research.

Author's Note

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