

Northwestern University Feinberg School of Medicine



Beyond Mentoring: Academic Career “Coaching” as a Supplement to the Traditional Training of Biomedical PhD Students

Scientific Careers Research & Development Group

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Underlying Assertions and Hypotheses for Why We Need Coaching *and* Mentoring

Underlying Assertion: The absence of change in faculty diversity is an unintended consequence of the fundamental culture and practices of biomedical research and research training.

Theoretical Hypothesis: One of the primary reasons that URM PhD students and postdocs are not progressing as successfully as expected in their professional careers is that they are less likely to become fully accepted and have equal access to professional development within the laboratory and broader scientific communities they are trying to move into.

Underlying Assertions and Hypotheses for Why We Need Coaching *and* Mentoring

Experimental Hypothesis: The number of URM students who choose and achieve academic careers can be increased by:

- 1) teaching them about the unconscious processes that may impede acceptance and inclusion;
- 2) assisting them to develop skills to mitigate the social processes; and
- 3) providing systematic coaching to complement mentoring.

Academy Method: A novel coaching model to complement and overcome the idiosyncratic variability associated with mentor-based research training.



Previous Presentation: What Is The Academy?

Integrating Multiple
Social Science
Theories to Study
and Explain Career
Decisions of Young
Scientists and Design
Interventions



*This presentation:
Focus on Coaching Model*



Our Coaching Model in Context

Experimental group allocated into ten “coaching groups”

- Equal numbers of men/women and different racial/ethnic groups

3 day intensive coaching meeting July 2011

- future meetings 2012 and 2013

Professional Development Webinar Series

Ongoing virtual community created and maintained

- Based on student need and interest

A TRUE experiment

Coaches Training Agenda, Feb 20-22, 2011

Coach training

- 2-day on-site training in February 2011, periodic conference calls, pre-Academy meeting July 2011
 - **Stage Setting**
 - **Social Cognitive Career Theory (SCCT), Social Identity Theory, Communities of Practice (C of P), Cultural Capital**
 - **Integrating the Theories and Beginning to Apply them to the PhD Degree Experience**
 - **Coaching (as we define it) Principles or Core Elements (coaching vs. mentoring)**
 - **Moving from reactive management to proactive coaching: consciously guiding students toward academic careers**
 - **What kinds of objectives and activities might be included in the July meeting?**
 - **What kinds of objectives, activities, and data collection might be included during the academic year between summer ‘training camps’?**
 - **Where do we go from here?**

Our Coaches Bring a Breadth of Experience



Recruited via: GREAT group, Email announcement to NIGMS funded program directors (e.g. MARC, RISE, IMSD, PREP)

- 26 applicants total; 10 selected, 1 alternate Coach
 - 6 women, 4 men
 - 6 White, 2 Asian/Asian-American, 2 Hispanic

Range of Medical Schools Represented

- Public and private, varied levels of prestige, 1 HBCU

Selected for knowledge/skills with respect to diversity issues as well as mentoring and guiding students

- Examples of roles held by our coaches: Former or current P.I.s, Deans (e.g. of Graduate Studies, Diversity and Minority Affairs and Postdoctoral Affairs), Leadership roles within NIGMS funded programs
- Purposely chose highly experienced individuals for this coaching cohort but being extended to more junior potential Coaches for Academy Group II



Each Coaching Group is Diverse

Snapshot of One Group: Student Backgrounds

	African American	Latino	Asian	White
Male	1	1	1	1
Female	2	1	1	2

Disciplines Represented

- Biomedical Sciences, Molecular Biosciences, Biophysics, Reproductive Sciences, Molecular and Cellular Biology, Pharmacology, Microbiology, Biomedical Engineering

9 graduate institutions and 3 time zones represented

Participation Since the Summer Academy

- All 10 have participated in at least one coaching group call; some email and/or talk to the coach 1-on-1; some have attended a webinar too

Theoretically grounded practice helps us *identify* limitations of mentoring



Some problems built into the system may affect all students

- Conflicting interests between needs of students, PIs, evaluation, mentoring
- Idiosyncratic nature of mentoring may mean students (from all backgrounds) don't acquire:
 - specialized knowledge
 - access to resources
 - network connections
 - support in building self-efficacy
 - self-image
 - or receive guidance they need

Theoretically grounded practice helps us *identify* limitations of mentoring



Other problems built into the system particularly affect URM students

- As outsiders, URM students may face particular challenges mentoring may not address
 - Informal learning architecture typically more difficult for anyone starting as an 'outsider' to navigate
 - Being the first or "only one" in your family, lab, program, building, etc. may pose extra challenges, even isolation

Theoretically grounded practice helps us *address* limitations of mentoring too

Challenge

Conflicting
Interests

Using Coaching to Overcome that Challenge

Coaches are external to students' labs and institutions.

Idiosyncrasies of
Mentoring

Coaches selected for expertise and enhanced through coach training and sharing of expertise among coaches

Purposeful curriculum of insider knowledge and strategies for success

Students have access to a community of coaches and students



Theoretically grounded practice helps us *address* limitations of mentoring too

Challenge

Navigating science as “outsiders”

Using Coaching to Overcome that Challenge

Coaches selected for knowledge/skills with respect to diversity issues.

Social Science theory helps make these challenges explicit and develop strategies to address them

1 on 1 and group activities and processes, engagement in peer mentoring

Being the first or “only one”

Students form connections with a network of peers, future colleagues



Theoretically grounded practice helps us *address* limitations of mentoring too

Challenge

Navigating science as “outsiders”

Being the first or “only one”

Using Coaching to Overcome that Challenge

Intentional creation of a “safe space” and an open dialogue about challenges associated with being an outsider or the first or “only one.”



Data Sources for this Presentation

Data from Academy Group 1 (100 students, 10 coaches)

Students' Individual Development Plans (IDPs)

- Interviews with Coaches
- Student evaluations of Academy 2011 Summer meeting
- Coach evaluations of Academy 2011 Summer meeting
- Ethnographic observation:
 - coach trainings
 - coaching group meetings at the 2011 summer Academy meeting
 - in virtual coaching group meetings throughout the year



Preliminary Findings: Impacts on Students

Strong rapport between coaches and students

- Of 90 respondents, 100% conveyed comfort in raising a professional question to their coach. For example:

- ***How comfortable would you be raising a professional question to your coach?***

Very comfortable. Since [my coach] is so far removed from my host institution and potentially from my research interests, I think it would be very easy to ask him any question. -African American Male Student

I am very comfortable asking her questions. She is very professional and approachable. -Hispanic Female Student

Impacts on Students



•Of 89 respondents, 70% indicated comfort asking coaches personal questions. For example:

- **How comfortable would you be raising a personal question to your coach?**

*“Very comfortable as well and would not hesitate to do [raise a personal question to my coach]. She has made it so that **any topic is available for discussion.**”*

-Hispanic Male Student

*“Comfortable, but **less comfortable than if it was a professional question.**”*

-White Female Student

•Students indicated they also felt comfortable with their peers

(89 of 90 respondents). For example:

*“I am having a great time with my coaching group peers; everyone express their thoughts so well in the manner **we learn from each other.**”*

-Hispanic Female Student



Student Expectations for Coaches Varied

Expectation (IDPs)

Examples (Ethnographic Observation)

Trusted Contact

Discussions about conflicts with PIs, labmates, the imposter syndrome, dating within the PhD program

Help with Goals

Discussions about lab selection that met student goals and periodic progress updates

Socio-emotional
Support

Encouragement: “You can do this.” “I’m proud of you.” Discussions about creating balance, stress management

Skill
Development

Discussion about how to identify a gap in the research, how to have difficult conversations

Hands-on help

Clarifying concepts from coursework, Grantwriting workshops, time management



Preliminary Findings: Impacts on Coaches

Coaches find value in using social science theories in working with students. For example:

- *“I think the thing I’ve gotten the most out of [participating in the Academy] is thinking about how it is you develop scientists and the idea of those theories and stuff. I’ve really enjoyed that because **it’s so far out of what I do.**”*
- *“**I think it’s the sociological things that I have learned that have impacted [my coaching and mentoring].** So you know, I’ve been doing this for a long time, and often, students will come in and they’ll have a problem, and I have in my mind a mental checklist of ways to approach this problem, and I just start off, number one, you could do this, number two you could do this...And upon reflecting on this after hearing about things at the Academy, I’m like, huh. There’s not a lot of two-way conversation going on here and there’s not a lot of me asking at any point in time, “How do you feel about that?” Or “how would that outcome make you feel?” or “how comfortable are you with that?” (emphasis ours)*

➤ *Social science theory binds them together as a community of practice.*



Impacts on Coaches

Coaches value being part of a community of coaches and find it impacts their work. For example:

*“All these **discussions about the kinds of things that we want these kids to be thinking about from Day 1, and the style of coaching and...working with them as a group** and what value that adds, that’s definitely kind of made me think about, in this administrative role that I have here, in particular focusing on...our minority students and across so many different departments.”*

*“...just as a group, being able to talk about [mentoring], you know. As administrators, sometimes we don’t have an avenue or **we don’t have a group to kind of bounce things back and forth.**”*



Impacts on Coaches Cont'd

*“...I think **having active discussions with the other coaches** about mentoring and coaching and how they’ve interacted with their groups, and just sort of general discussions about the process has been really great.” (emphasis ours)*

*“Um, and so I think it opens your eyes about, um, best practices, I would say. So I don’t -- I **think everybody has improved, everybody has contributed to this experience and everybody has benefited from this experience too.**” (emphasis ours)*

High Points and Low Points So Far



Coaches had varying degrees of success in terms of how well their groups came together as a community of practice

- Successful strategies from the Summer 2011 Academy included:
 - One coaching group ate all their meals together
 - Two other groups discussed “the worst thing that ever happened to you and what resources you drew on to get through that”

Some frustration for coaches, challenges are unavoidable

- 5 of 99 attendees to the Summer 2011 Academy have withdrawn
- Need-based nature of program affects attendance
 - Coaches sometimes more eager for contact during year 1 than student need
- Nature of a *TRUE* experiment



Next Steps for Research

Three Levels of Analysis for Academy Group I

- **Level One: Comparing outcomes for experimental group vs. controls**
 - Identify important interim outcomes at the end of the years 1 and 2 of graduate school
- **Level Two: Within program variation by coach**
 - Investigate impact of coaching practice on student outcomes by group, type of student
 - Investigate relationship between level of engagement and student outcomes, considering resources students brought to the program
- **Level Three: Impact on Coaches, Practice of Coaching**
 - How do practices of guiding and advising students change once you train highly skilled mentors to coach?
 - What are the most effective practices of a cadre of highly skilled coaches?
 - How can we replicate our intervention in other contexts?



Next Steps for Research Cont'd

Developing the model for Academy Group II

- 6 coaches for 60 advanced biomedical PhD students
 - 3 women, 3 men
 - 2 African American, 1 Asian/Asian-American, 1 Hispanic, 2 White
- How does coaching model need to vary to meet needs of more advanced PhD students?



Implications for Practitioners

Theory is essential to understand what challenges *all* students face

- But URM students in particular
- Allows us to make challenges explicit
- **and to provide strategies to address them**

Some mentors may engage in some aspects of coaching, but not all do

Consider strategies to leverage resources and impact by drawing on cumulative expertise of coaches

Even coaches who are by many criteria outstanding talk about how much they are learning and gaining from the process

System-wide changes are still important for researchers to consider, but coaching can provide a supplement



Acknowledgements and Contacts



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