

Strategies for Enhancing Diverse Mentoring Relationships in STEM Fields

Melissa A. Carroll¹ and Erin F. Barnes²

¹DeSales University, Center Valley, PA, USA

²The University of Texas at El Paso, El Paso, TX, USA

Contact email: melissa.carroll@desales.edu

Abstract

Developing effective opposite-race mentorships in the STEM fields may contribute to minority student retention. Paying attention to the dynamics of race within the protégé's professional and psychosocial growth may positively influence academic advancement and professional longevity. The current paper will provide mentors with a suggested mentorship style and self-assessment activities to help uncover their typical broaching style when exploring racial issues with protégés. The evaluations provided are not diagnostic; rather, the activities afford mentors a self-reflection opportunity, which should contribute to the mentor's own growth, and could positively impact the development of a successful, cross-race mentorship.

Key words: mentoring; developmental relationships; STEM; broaching style

Introduction

According to the U.S. Department of Education (2012), minority students are underrepresented in the science, technology, engineering and mathematics (STEM) fields. Furthermore, there is a significant disproportion of ethnic minority faculty within the STEM academia. This paucity of ethnic minorities (faculty and students) contributes to an underrepresentation of minorities within STEM academia and industry (Syed & Chemers, 2011). The inclusion of mentors, and the ability to discuss sensitive issues regarding race and ethnicity may contribute to the reduction of this disparity; however, there is a dearth of research concerning minority mentoring in the STEM fields. Therefore, it is important for us to address what can be done to improve mentoring relationships between interracial dyads that are commonplace with the current academic dynamics.

Mentoring experiences can play both a positive and negative role in a protégé's development. Negative mentoring experiences can be perceived as deceitful, sabotaging, exploitative, and harassing (Eby, McManus, Simon & Russell, 2000), which may contribute to the attrition of talented protégés. Generally, these types of negative experiences can be explained by personal differences between the mentor and the protégé, which creates a mismatch between the two. Such mismatches often occur due to apparent or supposed differences in demographic backgrounds, attitudes, beliefs and values within the mentoring dyad (Eby *et al.*, 2000). On the contrary, positive mentoring experiences can contribute to important personal and professional outcomes among protégés (Ehrich, Tennent & Hansford, 2000;

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

Douglas, 1997). Such gains include increased self-efficacy, positive social interactions, and increased professional competency (Zand, Thomson, Cervantes, Espiritu, Klagholz, LaBlanc & Taylor, 2009). Positive mentoring can also contribute to perceived increases in job satisfaction, self-confidence, career advancements, development of a professional identity, and decreased work related conflict (de Janasz & Sullivan, 2004; Kram, 1988).

For these reasons, some researchers have recommended that underrepresented ethnic minority students be matched with mentors of the same race to increase the chance of positive mentoring experiences and academic success in the STEM fields (Blake-Beard, Bayne, Crosby, & Muller, 2011). However, this is often not possible as there are not enough senior, minority mentors to support the number of minority students pursuing STEM degrees. Therefore, it is important to create effective interracial mentorship that can contribute to more effective cross-race experiences.

We are focusing on mentoring relationships (mentorships) within the STEM fields as there is a significant need to generate an action plan for minority retention in STEM; however, these concepts could be applied to any discipline. This paper will serve as a guide to help facilitate the process of interracial mentorships by encouraging mentor self-growth. Specifically, this paper will provide mentors with tools to self-assess their approach to race in mentorships. The paper will also discuss a suggested mentoring style to use with opposite-race protégés. The structure of this paper is as follows: first, we will discuss how mentoring can be classified as a subgroup of developmental relationships. Although these terms are often used synonymously, mentoring is usually referred to as having a senior “mentor” and a novice “protégé”, while developmental relationships encompass any relational dyad where there is a senior “developer” and a novice “learner” (Higgins & Kram, 2001; Rock & Garavan, 2006). This difference will be discussed in more detail later in the paper. Second, we will focus on the specific roles and functions of a mentor that can improve cross-race mentorship. Lastly we will discuss broaching styles and provide an informal, self-evaluation exercise that can help mentors self-assess their approach when exploring sensitive topics, such as race, with protégés. Such exploration is important because poor handling of complex and sensitive racial issues can negatively impact the mentorship and, to an extreme, the protégé’s professional and psychosocial success.

Mentoring Functions

The effectiveness of mentorship does not rely on the amount of time shared between the mentor and protégé (Green & Bauer, 1995). Effective mentorship works best with established consistency, mutual respect and through the development of a safe space. It is more important to have matching characteristics and beliefs in the dyad to illicit a positive mentoring experience. There is an active combination of professional (career) and psychosocial (supportive) functions that are developed through a mentorship experience. Thomas (2001) describes five critical areas that are achieved through effective minority mentoring: (1) gains in protégé professional competence, (2) positive reputations of high protégé performance, which leads to increased protégé confidence and credibility, (3) prevention of protégé derailment through focused career advice provided by the mentor, (4) powerful mentor sponsorship of the protégé and (5) mentor protection of the protégé in unfair or unjust situations (which includes racial disparagement).

Mentoring also provides informal, passive role modelling for protégés (Blake-Beard *et al.*, 2011; Kram, 1983; Scandura & Williams, 2001), which is an opportunity to observe how senior professionals handle complicated situations. Such opportunities are invaluable as they afford protégés a clear example of how to handle similar situations in their future. According to Walton (1979), the psychological

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

identification with a same-race senior mentor can provide an example of academic success that is important for the retention of ethnic minorities.

Over the last two decades, mentoring research has started to investigate the mentor's perspective, function, and role in the development and advancement of the protégé (Mullen, 1994). Older theories of mentoring outline the importance of the mentor providing direction and guidance for the protégé's assimilation into the major culture of the organization. If we consider the university or college environment like an organisation, as theorised in Tinto's model of retention (1975), we can understand an organizational level of control is diversity, or lack thereof within STEM academia. Therefore, while organizational dynamics are important to understand, it is equally important for mentors to educate the protégé on navigating the organisation (academic environment) while using a culturally-relevant lens (Hanley & Noblit, 2009).

From a psychosocial standpoint, there are advantages to integrating cultural approaches to academics. Research conducted on assimilation logic and student learning have indicated that denying the student access or pride in his or her own culture robs them of personal and racial identity and, consequently, disempowers their learning experience (Hanley & Noblit, 2009). Providing culturally appropriate learning experiences serves to build a solid racial identity and ultimately improves the student's learning experience. Therefore, to adequately contribute to psychosocial development, it is critical that a mentor maintain a strong level of racial awareness and an appropriate approach to addressing complex, racial situations as they may rise.

There are four developmental stages of a mentorship: initiation, cultivation, separation, and termination/redefinition (Chao, 1997; Kram, 1983). During the first stage of a mentorship the protégé evaluates commonalities while desiring a dyadic relationship with a senior mentor. In the second stage the mentor and protégé listen, share and compare values and beliefs. The protégé is changing in the third phase which is reflective of intrinsic growth. Finally, during the fourth phase the mentor and protégé must redefine their relationship, which could mean the termination of the mentorship or redirection to accomplish a new goal. Although each of these stages is important, it is essential to understand that they are fluid and longitudinal in nature. We are choosing to focus on the early phase of cultivation as we believe it is critical to explore racial topics early to foster an environment where the protégé and mentor feel comfortable discussing such topics. We do want to mention, however, that issues of race may not always be relevant or sensitive topics for minority protégés. This comfort, or denial, may relate to the protégé's developmental stage of racial identity (French, Seidman, Allen & Aber, 2006).

Mentoring as a developmental relationship

The operational definition of mentoring has evolved over the last decade (Higgins & Kram, 2001). For instance, early studies on mentoring focused on a primary mentoring relationship between a senior mentor and a junior protégé. Recent mentoring concepts have changed primarily as a result of research stemming from the theory of "relationship constellations" by Kram (1988). Kram identified mentoring as being more than an unidirectional transfer of information from the mentor to the protégé, explaining that mentorship can be reciprocal and also tangential in nature (Higgins & Thomas, 2001; Rock & Garavan, 2006). Kram's (1988) perspective also takes into consideration the fact that several individuals can step into the role of 'mentor' and provide support for the development and advancement of the protégé. This means that faculty, staff, academic advisor and colleagues can be mentors, in some fashion, to minority students.

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

The terms mentorship and developmental relationships have been used synonymously, however, developmental relationships encompass any relational dyad where there is a senior “developer” (mentor) and a novice “learner” (protégé) whose focus is on the provision or exchange of support, advice and assistance (Higgins & Kram, 2001; Rock & Garavan, 2006). Developmental relationships can therefore be formal or informal—including several simultaneous dyadic relationships—as long as a “developer” takes an interest in the advancement of the “learner”. As previously mentioned, this can include a teacher and student dyad, advisor and advisee dyad and any other common collegiate relationship. According to Rock and Garavan (2006), developmental relationships are influenced by self-insight, self-efficacy, self-determination, learner motivation, capability, social capital (networking), and the learning and feedback culture in the “developer” and “learner”. These authors further discuss parameters in which developmental relationships exist: “relationship type, network effect, object of learning, time span of outcomes and developer style” (Rock & Garavan, 2006). To improve the effectiveness of mentoring interactions between mixed-race pairings, we decided to focus on the “developer style”, specifically the role and function of the mentor in the developmental relationship typology described by Rock and Garavan (2006).

Rock and Garavan (2006) proposed a typology for developmental relationships defining the roles and functions of various relational dyads that provide differing levels of experience, support and contributions to a wide array of beneficial outcomes. According to this typology, mentors can be classified as: (1) Organizational Navigators, (2) Sponsors of Development, (3) Grandparents, and (4) Friends. It was proposed that any mentor can step into one of these classifications; however we believe that the grandparent style would work best when the “developer” (mentor) is engaged in a mixed-race pairing. The “Grandparent” type of mentor will stand back and observe, listen, clarify and enhance decision making. Additionally he or she will provide wisdom and advice as necessary, while most importantly, he or she will contribute to the protégé’s development of self-identity, self-efficacy, self-determination and self-regulation. These types of mentors will basically serve as a sounding board and a dialogue partner for the protégé and bring a wide range of past experiences to the table that encourages reflection and intrinsic growth within the protégé.

Facilitating this type of growth, however, will require increased skill on the part of the mentor. Such a skill set requires an increased comfort discussing sometimes “uncomfortable” racial topics. More specifically, the mentor should be able to increase the protégé’s feelings of competency, motivation and confidence. Assisting such change requires the mentor to be aware of how his or her own personal characteristics, or biases, can hinder protégé development. Such characteristics surround the mentor’s cultural encapsulation—an inability to acknowledge the existence of “difference” due to the mentor’s preference, or privilege—when viewing the world through his or her own cultural lens. Becoming aware of mentor bias, therefore, is critical. Such awareness can be achieved by examining the mentor’s broaching style (the ability to discuss sensitive topics). The following paragraphs will explore broaching style as a means to uncover any unconscious biases that may be reflective of poor cultural competence.

Broaching the topic of race in developmental relationships

Exploring the topic of race within developmental relationships may be challenging for some mentors; especially when the relationship involves opposite-race pairing. For example, in a candid essay regarding his work with students of colour, Bultsma (2011), a white counsellor, admitted that it was simpler (and more palatable cognitively) to pretend that race did not matter to students rather than approach the topic and be perceived as racist. Such avoidant strategies, he explained, served as a barrier to facilitating success among his students of colour. Fortunately, however, the academic literature does offer hope for

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

resolution of this barrier. Published literature indicates that achieving a higher level of personal insight, regarding an individual's approach to complex issues, can be useful for a mentor's increased confidence when approaching delicate topics, such as race. Research by Baruth and Manning (2011), for example, explained that self-understanding improves cultural competence. More specifically, the aforementioned authors explained that people need to understand themselves in order to accurately understand others. Such insight and understanding can be gained by uncovering the mentor's approach to broaching.

As previously mentioned, broaching refers to a personal approach to addressing sensitive topics, such as race, within a relationship. Broaching style, along the same vein, pertains to the typical way in which an individual approaches these conversations. According to Day-Vines *et al.*, (2007), there are five broaching styles: (a) avoidant, (b) isolating, (c) incongruent, (d) congruent, and (e) infusing. (See table 1 for a description of each broaching style.)

Broaching Style	Broaching Behaviours
Avoidant	Ignores, minimizes racial/cultural factors and maintains a race neutral perspective on socio-political issues
Isolating	Agrees to broach but harbours reservations due to limited sense of personal efficacy and a concern about potential student reactions
Incongruent	Maintains an openness towards broaching cultural factors but lacks the accompanying skill set
Congruent	Accepts and encourages students to make culture specific interpretations of their concerns
Infusing	Broaching is regarded as an important aspect of work with students of colour and is related to other efforts to eliminate oppression and promote social justice and equality.

Table 1: The five approaches to broaching, proposed by Day-Vines, Wood, Grothaus, Craigen, Holman, Dotson-Blake, and Douglass (2007)

Depending on broaching style, an individual may be more or less willing to approach topics of race. In the documented experience of Bultsma (2011), he indicated that his initial approach to working with students of colour was to pretend that race did not matter, which would be considered an avoidant style. Such behaviour was evident due to his reluctance (albeit innocently) to explore the topic with his students. Bultsma's broaching behaviour was also problematic because it appears to be reflective of low levels of cultural competence. (See table 2 below, which the authors developed to demonstrate the level of cultural competence reflected within each broaching style.)

Broaching Style	Cultural Competence
Avoidant	Low
Isolating	Low-Moderate
Incongruent	Moderate
Congruent	Moderate-High
Infusing	High

Table 2: The level of cultural competence associated with the five broaching styles.

Therefore, higher levels of broaching style are important as they are indicative of cultural competence. A mentor who is infusing, for example, will be more likely to consider the intersection of racial and

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

cultural factors (Day-Vines *et al.*, 2007) within the context of the protégé's situation. The following paragraphs will, therefore, explore broaching styles through an applied case study and a broaching style self-assessment tool. The combination of these two activities may contribute to mentor growth, and may consequently improve a cross-race mentorship.

Applied case study

To further describe broaching style, and demonstrate how this can be used by the mentor we will begin with a case study. This case study will: (1) provide examples of hypothetical mentor responses, (2) infer the mentor's commitment to diversity as reflected in the response, and (3) describe the behaviour demonstrated by the mentor. Attitudes and behaviours reflected by each approach will also be explored.

Case study

A European American (white) advisor is struggling to understand why her assigned advisee, an African American (black) male, who is also a student in her Biology class, is resistant to completing the first four assignments (3 quizzes and 1 paper). The advisor contacts the student via email to understand why he is not taking quizzes and asks him to come to see her. He replies that he does not want to meet with her and drops the course without ever expressing his concerns. The advisor is distressed about the situation as she wants to be supportive of the student, but is unsure about the problem. She suspects it could be race-related and she thoughtfully begins to process the event as a means to determine a course of action. The table below reflects a list of responses the advisor could consider. These responses reflect each of the five broaching styles.

Broaching Style	Broaching Behaviours
Avoidant	The instructor (and advisor) dismisses the incident as being race related and opts to focus on her course structure and ways to improve the assigned coursework.
Isolating	The instructor (and advisor) considers the fact that race could be an issue, but quickly dismisses the idea and attributes the problem to the course structure.
Incongruent	The instructor (and advisor) considers the utility of exploring the issue of race with the student by referring him to someone who may be better prepared to help them process the issue of race.
Congruent	The instructor (and advisor) considers asking the protégé to explore whether race is a factor in this situation, and facilitates a discussion where the student is asked to evaluate how such situations may influence his personal or professional experience in the future.
Infusing	The instructor (and advisor) acknowledges the complexity of the situation, references research findings surrounding racial dynamics in the classroom, and facilitates a discussion with the student about his experiences with classroom or programme diversity. The mentor would also share anecdotal commentary about comparable personal scenarios as a way to help the student examine any poignant experience that may have contributed to the current uncomfortable or non-productive situation in the class.

Table 3: List of responses the advisor could consider. These responses reflect each of the five broaching styles.

Assessing personal broaching style

In the prior case scenario we presented several different behaviours the white advisor could have used to broach the student situation. As a reader, it may be easy to choose how best to respond when the options are presented side-by-side; however, as a means to evaluate an innate personal broaching style, we propose that each mentor participate in an honest self-assessment. We have developed a self-

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

assessment tool in Table 4 based on the work of Day-Vines *et al.*, (2007), who were the first to outline the various broaching styles that occur within professional, opposite-race relationships.

Self-Evaluation Exercise		
<p>Think about three different experiences you shared with an opposite-race protégé. The experience can be something you have observed, or a situation that the protégé discussed with you. Write down (candidly) all of the details you recall about the situation. Document your response and choose from the list below which behaviour is most representative of your conduct during the experience. Then, use the adjacent cultural competency table to determine your level of racial awareness. Do this for each of the three experiences. Once completed, honestly evaluate your responses and average the score you received for each experience to determine your typical broaching style. If your responses were in one of the first three categories (scores 1-3) critically reflect on whether you could benefit from further training in multicultural issues.</p>		
<p>Describe the Situation(s). What did you observe or what did the protégé tell you? Situation 1 – Situation 2 – Situation 3 –</p>		
<p>Describe your response. In both cognitive and behavioural terms, describe your response to the protégé’s situation. Select which behaviour best captures your response (i.e. dismissive, reluctant and superficial, etc.) Once you have described your response, select one of the broaching styles that most accurately reflected your response. Situation 1 – Situation 2 – Situation 3 –</p>		
<p>Using the broaching styles below, select which best reflects your responses in each situation. Once this is done, classify which style each of your responses was reflective of.</p>		
Broaching Style	Behaviour	Cultural Competence
<i>Avoidant</i>	Dismissive	Low
<i>Isolating</i>	Reluctant and superficial	Low-Moderate
<i>Incongruent</i>	Disingenuous and lacking integrative skill	Moderate
<i>Congruent</i>	Effectively and fluidly incorporates race into working style	Moderate-High
<i>Infusing</i>	Seamlessly incorporates race into “being”	High
SCORING		
Situation 1	Situation 2	Situation 3
Avoidant – 1 point Isolating – 2 points Incongruent – 3 points Congruent – 4 points Infusing – 5 points	Avoidant – 1 point Isolating – 2 points Incongruent – 3 points Congruent – 4 points Infusing – 5 points	Avoidant – 1 point Isolating – 2 points Incongruent – 3 points Congruent – 4 points Infusing – 5 points
Assign yourself points for the particular style used in the situation. _____ points	Assign yourself points for the particular style used in the situation. _____ points	Assign yourself points for the particular style used in the situation. _____ points
Total Points Received (Situation 1 + Situation 2 + Situation 3) = _____ / 3 Avg = _____		
If your score falls between two of the categories (e.g. 3.5), be honest with yourself and assign which style your closest friend would say is your style.		

Table 4 Self Evaluation Exercise

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

We believe this informal (non-empirical) activity may help mentors evaluate their broaching styles and become aware of potential personal biases and limitations when addressing sensitive topics such as race-related issues. Additionally, this self-evaluation activity may help mentors gain insight on how they can personally enhance a mentorship with his or her opposite-race protégé. This activity is also consistent with previous research by Baruth and Manning (2011), who indicated that self-awareness is a critical ingredient for cultural competence. Effective use of the self-assessment tool requires the mentor to explore past experiences with opposite-race protégés, especially past experiences that involved racial matters, and determine how personal mentoring behaviours aligned with the presented broaching styles.

It is critically important to note that this activity is not intended to be used as a “diagnostic” tool for the mentor; rather, it is designed to self-assess innate broaching tendencies to allow a more informed and strategic approach in the future. The assessment asks the mentor to evaluate three different experiences with opposite-race protégés to assess his or her typical broaching style. The goal is to identify what level of cultural competence was expressed in the broaching style used. Scores below 3 (on a 5 point scale) are representative of lower levels of cultural competence while high scores above 4 (on a 5 point scale) are reflective of higher levels of cultural competence. Scores at three are moderate. If scores fall between two of the categories (e.g. 3.5), mentors are asked to be honest and assign which style (up or down) that a close friend may say aligns with them. A mentor with a low score (below 3) may benefit from further training in cultural competence.

We understand that deciding what steps to take in a racial or uncomfortable situation can be challenging. As such, we developed an activity in Table 5 that mentors can use to process situations when they arise. Mentors can also use this activity to walk themselves through the broaching behaviours when they encounter a challenging, racially relevant situation with a protégé. This activity will allow the mentor to explore all possible actions and then select the most appropriate choice to assist in an approach that is reflective of higher levels of broaching behaviour and cultural competence.

Selecting the Best Broaching Approach Exercise			
Describe the situation: What did you observe or what did the protégé tell you?			
Generate a list of possible responses according to each broaching style.			
Broaching Style	Mentor Response Options	Behaviour	Cultural Competence
Avoidant	<i>(Insert response here)</i>	Dismissive	Low
Isolating	<i>(Insert response here)</i>	Reluctant and superficial	Low-Moderate
Incongruent	<i>(Insert response here)</i>	Disingenuous and lacking integrative skill	Moderate
Congruent	<i>(Insert response here)</i>	Effectively and fluidly incorporates race into working style	Moderate-High
Infusing	<i>(Insert response here)</i>	Seamlessly incorporates race into “being”	High
Identify the appropriate response. (HINT: It should be representative of the styles associated with higher levels of cultural competence, such as the congruent and infusing styles.)			

Table 5 Selecting the best broaching approach exercise

The current issue and full text archive of this journal is available at <http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

Discussion and future research directions

Data collected by the U.S. Department of Education demonstrate a disparity between white and black students that enter the STEM fields. During their undergraduate tenure black students that enter the STEM fields dropout of college completely or change majors twice as much as their white counterparts. This data demonstrates that there is a significant problem in minority student persistence in the STEM fields, even though recruitment and enrolment has been sustained (U.S. Department of Education, 2012). By exploring mentorship/developer styles and mentor broaching style in interracial relationships we can identify how mentors can assist the protégés with important aspects of personal and professional achievement when it comes to racial disparagement. These contributions may positively influence retention and professional longevity within STEM fields.

Generally, undergraduate students will haphazardly be assigned to a departmental advisor during the first semester of their college career. It is the advisor's duty to mentor the student in the curricular threads, career placement and advancement within the university setting. Although this is the first developmental relationship the student may encounter (that is STEM specific) it is also imperative for faculty to support the protégé's personal development. Oftentimes, this is a feature that is overlooked in mentoring relationships. However, helping the protégé to develop a strong sense of personal identity, especially an identity related to his or her race, can significantly improve outcomes for protégé competency and an understanding of one's personal role within the professional realm.

When considering the current racial disparity within the STEM fields (among both students and faculty), we believe that it is important to establish effective relationships between interracial dyads of mentors and protégés. Following the typology outlined by Rock and Garavan (2006), the most effective developmental relationship approach that we suggest would be the "Grandparent" style. This style takes into consideration long-term outcomes, passive communication, self-focused learning, reflection and informal mentoring. Additionally we believe that within developing a strong "Grandparent" style of mentorship it is important for the mentor to broach the topic of race with a high level of cultural competence—contributing to a safe environment—when exploring sensitive racial topics.

The thrust of the current manuscript was to outline an informal and qualitative strategy for mentors to explore his or her broaching style. This activity should not, in its current state, be considered a diagnostic tool that identifies a personality deficiency, rather it should be used to elicit self-reflection and enable the mentor to consider ways in which innate broaching styles inhibit or enhance successful, opposite-race mentoring dyads. Future research should focus on the empirical testing of mentor developmental and broaching styles as a way to improve mentorships with opposite-race protégés.

In the meantime, while additional research is underway concerning this topic, it is important that mentors understand there are additional ways to gain the cultural competence necessary to be prepared to work with opposite-race protégés. For instance, cultural competence training has demonstrated to be "helpful in changing modes of information processing related to racial attitudes" (Evans & Foster, 2000). Parker, Moore, and Neimeyer (1998) explained that multicultural training can help white individuals become more comfortable with interracial interaction. The aforementioned authors developed (and empirically tested) an integrative, multicultural training program that proved to elicit changes in personal awareness and growth, cultural knowledge, and cross-cultural skills and sensitivity training among research participants. This training program empirically demonstrates that individuals, regardless of prior experiences, can become more comfortable in interracial scenarios. It is our recommendation, therefore,

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

that mentors who exhibit low cultural competence through the presented self-assessments, can take comfort in knowing that there are activities that can help them gain the skills (and confidence) to address complex sensitive issues, such as race, with their protégés.

Conclusion

We believe in the promise that opposite-race mentorship holds for minority protégés. Mentors of a majority status can significantly impact the professional and personal development of minorities. The reputation, academic advancement, and protection of the protégé are important contributions provided by a mentor. However, we acknowledge that achieving effective cross-race mentorship, and discussing sensitive racial topics in an interracial dyad can be challenging for mentors. As such, it is our hope that this article and the activities provided will help mentors self-assess their typical broaching style and examine ways in which that style could hamper or enhance their protégé's development. The first activity asked the mentor to evaluate three encounters they have had with an opposite-race protégé. This evaluation should help the mentor to identify the personal behaviour typically used when approaching the subject of race with the cross-race protégé. The second activity was developed to serve as a decision-making model of sorts, that can help the mentor to think through all the possible responses he or she could have regarding the protégé's situation. The goal is for the mentor to select a broaching style that would facilitate positive development within the protégé. Once mentors critically assess their interaction with minority protégés, and determine to have proactive mentoring experiences, these mentors may contribute to minority retention, protégé professional longevity and a reduction of racial disparity within the STEM fields.

References

- Baruth, L. G., & Manning, M. L. (2011). *Multicultural counseling and psychotherapy: A lifespan approach*. New York: Merrill Publishing Company.
- Blake-Beard, S., Bayne, M. L., Crosby, F. J., & Muller, C. B. (2011). Matching by race and gender in mentoring relationships: keeping our eyes on the prize. *Journal of Social Issues, 67*(3), 622-643. doi:10.1111/j.1540-4560.2011.01717
- Bultsma, S. (2011). Broaching the subjects of race, ethnicity, and culture with students. *Colleagues, 2*(2), 11.
- Chao, G. T. (1997). Mentoring phases and outcomes. *Journal of Vocational Behavior, 51*(1), 15-28. doi:10.1006/jvbe.1997.1591
- Day-Vines, N. L., Wood, S. M., Grothaus, T., Craigen, L., Holman, A., Dotson-Blake, K., & Douglass, M. J. (2007). Broaching the subjects of race, ethnicity, and culture during the counseling process. *Journal of Counseling and Development, 85*(4), 401-409.
- de Janasz, S. C., & Sullivan, S. E. (2004). Multiple mentoring in academe: developing the professorial network. *Journal of Vocational Behavior, 64*(2), 263-283. doi:10.1016/j.jvb.2002.07.001
- Douglas, C. A. (1997). Formal mentoring programs in organizations. *North Carolina: Creative Leadership*.
- Eby, L. T., McManus, S. E., Simon, S. A., & Russell, J. E. A. (2000). The protege's perspective regarding negative mentoring experiences: the development of a taxonomy. [Reports - Research]. *Journal of Vocational Behavior, 57*(1), 1-21.

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

- Ehrich, L. C., Tennent, L., & Hansford, B. C. (2000). Mentoring in context. In *Annual International Conference on Post-Compulsory Education and Training*, 4-6 December 2000, Gold Coast, Australia. (Unpublished)
- Evans, K. M. & Foster, V. A. (2000). The relationship between multicultural training and the moral and racial identity development of White counseling students. *Journal of Counseling and Values*, 45(1), 39-48.
- French, S.E., Seidman, E., Allen, L., & Aber, J. L. (2006). The development of ethnic identity during adolescence. *Developmental Psychology*, 42(1), 1-10. doi:10.1037/0012-1649.42.1.1
- Green, S. G., & Bauer, T. N. (1995). Supervisory mentoring by advisers: relationships with doctoral student potential, productivity, and commitment. *Personnel Psychology*, 48(3), 537-562.
- Hanley, M., & Noblit, G. (2009). Cultural responsiveness, racial identity and academic success: a review of literature. *Pittsburgh, PA: The Heinz Endowments*.
- Higgins, M. C., & Kram, K. E. (2001). Reconceptualizing mentoring at work: a developmental network perspective. *The Academy of Management Review*, 26(2), 264-288. doi: 10.2307/259122
- Higgins, M. C., & Thomas, D. A. (2001). Constellations and careers: toward understanding the effects of multiple developmental relationships. *Journal of Organizational Behavior*, 22(3), 223-247. doi: 10.1002/job.66
- Kram, K. (1988). *Mentoring at work: developmental relationships in organizational life*. Glenview, IL: Scott, Foresman and Company.
- Kram, K. E. (1983). Phases of the mentor relationship. *Academy of Management journal*, 26(4), 608-625.
- Mullen, E. J. (1994). Framing the mentoring relationship as an information exchange. *Human Resource Management Review*, 4(3), 257-281. doi:10.1016/1053-4822(94)90015-9
- Parker, W. M., Moore, M. A., & Neimeyer, G. J. (1998). Altering white racial identity and interracial comfort through multicultural training. *Journal of Counseling & Development*, 76(3), 302-310.
- Rock, A. D., & Garavan, T. N. (2006). Reconceptualizing developmental relationships. *Human Resource Development Review*, 5(3), 330-354.
- Scandura, T. A., & Williams, E. A. (2001). An investigation of the moderating effects of gender on the relationships between mentorship initiation and protege perceptions of mentoring functions. *Journal of Vocational Behavior*, 59(3), 342-363.
- Syed, M., & Chemers, M. M. (2011). Ethnic minorities and women in stem: casting a wide net to address a persistent social problem. *Journal of Social Issues*, 67(3), 435-441. doi:10.1111/j.1540-4560.2011.01708.x
- Thomas, D. A. (2001). The truth about mentoring minorities: race matters. *Harvard Business Review*, 79(4), 98-109.
- Tinto, V. (1975). Dropout from higher education: a theoretical synthesis of recent research. *Review of educational research*, 45(1), 89-125.
- U.S. Department of Education, 2012. *STEM in Postsecondary Education: Entrance, Attrition, and Course-taking among 2003-2004 Beginning Postsecondary Students*. (NCES203-15) Washington, DC
- Walton, J. M. (1979). Retention, role modeling, and academic readiness: a perspective on the ethnic minority student in higher education. *The Personnel and Guidance Journal*, 58(2), 124-127.

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>

Zand, D. H., Thomson, N., Cervantes, R., Espiritu, R., Klagholz, D., LaBlanc, L., & Taylor, A. (2009).
The mentor-youth alliance: the role of mentoring relationships in promoting youth competence.
Journal of Adolescence, 32(1), 1-17.

About the Authors

Melissa A. Carroll PhD is an assistant professor at DeSales University, Doctor of Physical Therapy Programme, with primary research interests in anatomical academic excellence.

Erin F. Barnes PhD is an assistant professor at The University of Texas at El Paso, Rehabilitation Counselling, with primary research interests in knowledge translation.

The current issue and full text archive of this journal is available at
<http://www.business.brookes.ac.uk/research/areas/coachingandmentoring/>