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NIH Diversity Program Consortium

Technical Report

Short-Form of the Mentoring Competency Assessment (MCA-short)

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MCA-short Development Notes

The original Mentor Competency Assessment (MCA) scale was published as “The mentoring competency assessment: validation of a new instrument to evaluate skills of research mentors” in 2013 by Fleming et al. in *Academic Medicine*, a Journal of the Association of American Medical Colleges. The 26-item scale measured six sub-domains of mentor competency: maintaining effective communication, aligning expectations, assessing understanding, addressing diversity, fostering independence, and promoting professional development. The original MCA was used in the national longitudinal Enhance Diversity Study (Building Infrastructure Leading to Diversity (BUILD) Faculty Annual Follow-up Survey 2017-2018 and 2019; National Research Mentoring Network (NRMN) Annual Follow-up Survey 2016-2017, 2017-2018, and 2019) as part of the evaluation of the Diversity Program Consortium, supported by the National Institutes of Health (NIH U54GM119024).

In an effort to reduce respondent burden in the Enhance Diversity Study, analysts examined the psychometric properties of the MCA, using faculty/mentor data from the 2018 NRMN Annual Follow-up Survey and the BUILD Faculty Annual Follow-up Survey 2017-2018. Sequential statistical analyses employed to test the quality of each item and the overall scale included Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Item Response Theory (IRT). The resulting short form of the Mentor Competency Assessment (MCA-short) includes 8-items across the original 6 sub-domains. When comparing the scores from the 8-item scale and the 26-item scale, we find relatively high correlation (above .96 for both the NRMN and BUILD Faculty surveys). The MCA-short form is being used with subsequent Enhance Diversity faculty/mentor follow-up surveys and studies associated with the Diversity Program Consortium. Permission from original authors has been granted to publish the MCA-short form.

Please consult the paper (Creating Short Scales for Measuring Faculty Mentoring) that will be presented at the 2020 annual conference of the American Educational Research Association (AERA) (Zhong, et al., April, 2020) for a full description of scale development, and check back here for information on publications that document the short form development process.

MCA-short

In completing the MCA and MCA-short form, respondents are asked to rate their skill level across a range of mentoring areas. Response options include: (1) Not at all Skilled, (2), (3), (4) Moderately Skilled, (5), (6), (7) Extremely Skilled, and N/A. Table 1 lists the final set of items, mapped to sub-domains, that appear on the shortened form of the Mentor Competency Assessment (MCA-short).

Table 1. 8-item Short Form of the Mentor Competency Assessment (MCA-short)

[Stem] Please rate how skilled you are in each of the following mentoring areasⁱ...

Scale Information: (1) Not at all Skilled (2) (3) (4) Moderately Skilled (5) (6) (7) Extremely Skilled (N/A)

[endnotes about subdomains for researcher reference only, do not include when administering the questions]

Establishing a relationship based on trust ⁱⁱ

Aligning your expectations with your mentees ⁱⁱⁱ

Accurately estimating your mentees' level of scientific knowledge ^{iv}

Building mentees' confidence ^v

Stimulating your mentees' creativity ^v

Taking into account the biases and prejudices you bring to your mentor/mentee relationship ^{vi}

Helping your mentees balance work with their personal life ^{vii}

Understanding your impact as a role model ^{vii}

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References

Fleming, M., House, M.S., Shewakramani, M.V., Yu, L., Garbutt, J., McGee, R., Kroenke, K., Abedin, Z., & Rubio, D. (2013). The mentoring competency assessment: validation of a new instrument to evaluate skills of research mentors. *Academic medicine: journal of the Association of American Medical Colleges*, 88(7), 1002.

Zhong, S., Maccalla, N.M.G., Norris, K.C., Wallace, S.P., & Jeon, M. (forthcoming – April 2020). Creating Short Scales for Measuring Faculty Mentoring [paper presentation]. 2020 American Educational Research Association Annual Meeting, San Francisco, CA. Retrieved Sept. 14, 2022, from the [AERA Online Paper Repository](#).

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ⁱ In the original study (Fleming et al., 2013), the prompt read “Please rate how skilled you feel you are in the following areas.” Enhance Diversity Study surveys that were analyzed included prompts that read (underlines NOT in the original) “please rate how skilled you are in each of the following mentoring areas,” “please rate how skilled you feel you are in each of the following mentoring areas,” or “please indicate how skilled you feel in each mentoring component listed below.” The metrics used to reduce items did not differ meaningfully across surveys.

ⁱⁱ Sub-domain - Maintaining Effective Communication

ⁱⁱⁱ Sub-domain - Aligning Expectations

^{iv} Sub-domain - Assessing Understanding

^v Sub-domain - Fostering Independence

^{vi} Sub-domain - Addressing Diversity

^{vii} Sub-domain - Promoting Professional Development



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