Supplemental Material

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Table S1. Development of Cultural Diversity Awareness Scale – Race/Ethnicity Version (CDA-R/E)

Item at Phase1	Item Decision at Phase 1	Item Decision at Phase 2	Item Decision at Phase3
Attitude			
It is important to consider the mentee's and the mentor's race/ethnicity in mentoring relationships.	RETAIN$_{Both}$	RETAIN$_{Both}$	RETAIN$_{Both}$
Race/ethnicity has an impact on the relationship between the mentor and a mentee.	RETAIN$_{Both}$	REMOVE$_{Both}$	---
The mentor should be responsible for initiating a conversation about racial/ethnic differences in the mentoring relationship, even if the differences present no challenges to the relationship.	REMOVE$_{Both}$	---	---
It is important for mentors to address racial/ethnic issues with mentees if they come up in the relationship.	REMOVE$_{Both}$	---	---
Mentoring someone with a different racial/ethnic background benefits the mentoring relationship.	REMOVE$_{Both}$	---	---
It is appropriate for mentors to speak about racial/ethnic differences with their mentees.	REMOVE$_{Both}$	---	---
Mentors should consider a mentee's racial/ethnic background before accepting him/her as a trainee.	REMOVE$_{Both}$	---	---
Mentoring someone with a different racial/ethnic background benefits the research.	RETAIN$_{Both}$	REVISE$_{Both}$ - Mentoring someone with a different racial/ethnic background benefits the research (e.g., exposure to new ideas).	RETAIN$_{Mentor}$ REMOVE$_{Mentee}$
It is important for mentors and mentees to talk about the mentee's racial/ethnic background during their interactions with one another.	RETAIN$_{Both}$	REVISE$_{Both}$- It is important for mentors and mentees to talk together about the mentee's racial/ethnic background.	RETAIN$_{Both}$
I am comfortable talking about race/ethnicity in my research mentoring relationships.	REMOVE$_{Both}$	---	---
The mentee should be responsible for initiating a conversation about racial/ethnic differences in the mentoring relationship, even if the	REMOVE$_{Both}$	---	---

Item at Phase1	Item Decision at Phase 1	Item Decision at Phase 2	Item Decision at Phase3
difference presents no challenges to the relationship.			
It is important for mentors and mentees to discuss how race/ethnicity impacts the mentee's research experience.	RETAIN$_{Both}$	RETAIN$_{Both}$	OMIT$_{Both}$
My racial/ethnic identity is relevant to my research mentoring relationships.	RETAIN$_{Both}$	RETAIN$_{Both}$	RETAIN$_{Both}$
Race/ethnicity influences how effective communication is between a mentor and a mentee.	REMOVE$_{Both}$	---	---
Racial/ethnic differences between mentors and mentees create challenges in the relationship.	REMOVE$_{Both}$	---	---
Racial/ethnic differences between mentors and mentees enhance the mentoring relationship (e.g., exposure to new ideas or research).	RETAIN$_{Both}$	REVISE$_{Both}$ - Racial/ethnic differences between mentors and mentees enriches the research mentoring relationship.	RETAIN$_{TM}$
Addressing racial/ethnic diversity in my mentoring relationships distracts me from doing my research.	REMOVE$_{Both}$	---	---
Behaviors			
I think about how my mentee's race/ethnicity influences our mentoring relationship. *My mentor thinks about how my race/ethnicity influences our mentoring relationship.*	REMOVE$_{Both}$	---	---
I struggle with issues stemming from racial/ethnic differences in our mentoring relationship. *My mentor struggles with issues stemming from racial/ethnic differences in our mentoring relationship.*	REMOVE$_{Both}$	---	---
I have difficulty understanding the experiences of my mentee because of her/his race/ethnicity. *My mentor has difficulty understanding my experience because of my race/ethnicity.*	REMOVE$_{Both}$	---	---
I make assumptions about my mentee's racial/ethnic background. *My mentor makes assumptions about my racial/ethnic background.*	REMOVE$_{Both}$	---	---

Item at Phase1	Item Decision at Phase 1	Item Decision at Phase 2	Item Decision at Phase3
I accept my mentee for who he/she is. *My mentor accepts me for who I am.*	REMOVE_{Both}	---	---
I talk with my mentee about his/her racial/ethnic background. *My mentor talks with me about my racial/ethnic background.*	REMOVE_{Both}	---	---
I ask my mentee about how his/her race/ethnicity impacts his/her research experience. *My mentor asks me how my race/ethnicity impacts my research experience.*	REMOVE_{Both}	---	---
My mentee thinks about how my race/ethnicity influences our mentoring relationship. *I think about how my mentor's race/ethnicity influences our mentoring relationship.*	REMOVE_{Both}	---	---
I consider aspects of the research experience (e.g., lab, field work) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes. *My mentor considers aspects of the research experience (e.g., lab, field work) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes.*	REMOVE_{Both}	---	---
I ask questions about my mentee's racial/ethnic experience when I do not understand. *My mentor asks questions about my racial/ethnic experience when he/she does not understand.*	REMOVE_{Both}	---	---
I am aware of interactions in the mentoring relationship that could be insulting or dismissive to my mentee because of his/her race/ethnicity. *My mentor is aware of interactions in the mentoring relationship that could be insulting or dismissive to me because of my race/ethnicity.*	REMOVE_{Both}	---	---
I am conscious of how the privilege attached to my racial/ethnic identity influences the	REMOVE_{Both}	---	---

Item at Phase1	Item Decision at Phase 1	Item Decision at Phase 2	Item Decision at Phase3
mentoring relationship (e.g., norms, expectations, communication style). _My mentor is conscious of how the privilege attached to his/her racial/ethnic identity influences the mentoring relationship (e.g., norms, expectations, communication style)._			
	NEW$_{Mentor}$ - I intentionally create opportunities for my mentees to bring up issues of race/ethnicity as they arise.	REVISE$_{Mentor}$ -I created opportunities for my mentees to bring up issues of race/ethnicity as they arose. NEW$_{Mentee}$ - _My mentor created opportunities for me to bring up issues of race/ethnicity as they arose._	RETAIN$_{Both}$
	NEW$_{Mentor}$ - I encourage mentees to think about how the research relates to their own lived experience.	REVISE$_{Mentor}$ -I encouraged mentees to think about how the research relates to their own lived experience. NEW$_{Mentee}$- _My mentor encouraged me to think about how the research related to my own lived experience._	RETAIN$_{Both}$
	NEW$_{Mentor}$ - I put myself in a vulnerable position when it comes to discussions of race/ethnicity.	REVISE$_{Mentor}$ -I was willing to discuss race and ethnicity with my mentees, even if it made me uncomfortable. NEW$_{Mentee}$-_My mentor was willing to discuss race and ethnicity, even if it may have been uncomfortable for him/her._	REMOVE$_{Mentor}$ RETAIN$_{Mentee}$
	NEW$_{Mentor}$ - I think about how the research experience might differ for mentees from different racial/ethnic groups.	REVISE$_{Mentor}$ -I reflected upon how the research experience might differ for mentees from different racial/ethnic groups. REMOVE$_{Mentee}$	RETAIN$_{Mentor}$
	NEW$_{Mentor}$ - I raise the topic of race/ethnicity in my mentoring relationships when it is appropriate.	REVISE$_{Mentor}$ -I raised the topic of race/ethnicity in my research mentoring relationships when it was relevant. NEW$_{Mentee}$-My mentor raised the topic of race/ethnicity in our research mentoring relationship when it was relevant.	RETAIN$_{Both}$
	NEW$_{Mentor}$ - I go outside of my comfort zone to help mentees feel included in the lab.	REMOVE$_{Both}$	---

Item at Phase1	Item Decision at Phase 1	Item Decision at Phase 2	Item Decision at Phase3
	NEW$_{Mentor}$ - I devise strategies to address racial/ethnic diversity in my mentoring relationships.	REVISE$_{Mentor}$ -I implemented specific strategies to address racial/ethnic diversity in my research mentoring relationships.	RETAIN$_{Mentor}$
		REMOVE$_{Mentee}$	
	NEW$_{Mentor}$ - I respectfully broach the topic of race/ethnicity in my mentoring relationships.	REVISE$_{Both}$ -I approached the topic of race/ethnicity with my mentee(s) in a respectful manner.	RETAIN$_{Mentor}$
		NEW$_{Mentee}$-*My mentor approached the topic of race/ethnicity with me in a respectful manner.*	
Confidence			
Discuss race/ethnicity with mentees.	REMOVE$_{Mentor}$	---	---
Ask mentees about their racial/ethnic background.	REMOVE$_{Mentor}$	---	---
Discuss with mentees how it feels to be a minority in science.	RETAIN$_{Mentor}$	RETAIN$_{Mentor}$	RETAIN$_{Mentor}$
Address the role of race/ethnicity in the mentoring relationship.	RETAIN$_{Mentor}$	REVISE$_{Mentor}$ - Take advantage of opportunities to address race/ethnicity in the research mentoring relationship.	RETAIN$_{Mentor}$
Identify my own culturally-shaped assumptions.	REMOVE$_{Mentor}$	---	---
Recognize my own unconscious biases.	REMOVE$_{Mentor}$	---	---
Recognize aspects of the research experience e.g., lab, field work) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes.	RETAIN$_{Mentor}$	RETAIN$_{Mentor}$	RETAIN$_{Mentor}$
Provide opportunities for mentees to talk about their racial/ethnic identity as it relates to their research experience.	RETAIN$_{Mentor}$	REVISE$_{Mentor}$ - Provide opportunities for mentees to talk about their racial/ethnic identity as it relates to their research experience should the occasion arise.	RETAIN$_{Mentor}$
Identify interactions in the mentoring relationship that could be insulting or dismissive to your mentees because of their race/ethnicity.	RETAIN$_{Mentor}$	REVISE$_{Mentor}$ - Notice interactions in the mentoring relationship that could be insulting or dismissive to mentees because of their race/ethnicity.	RETAIN$_{Mentor}$
Identify how the privilege attached to racial/ethnic identities influences the	RETAIN$_{Mentor}$	REMOVE$_{Mentor}$	---

Item at Phase1	Item Decision at Phase 1	Item Decision at Phase 2	Item Decision at Phase3
mentoring relationship (e.g., norms, expectations, communication style).			
Ask questions about a racial/ethnic experience when I do not understand.	RETAIN$_{Mentor}$	REMOVE$_{Mentor}$	---
Motivation			
Ask mentees about their racial/ethnic background.	REMOVE$_{Mentor}$	---	---
Address the role of race/ethnicity in the mentoring relationship.			
Identify my own culturally-shaped assumptions.	REMOVE$_{Mentor}$	---	---
Recognize my own unconscious biases.	REMOVE$_{Mentor}$	---	---
Recognize aspects of the research experience (e.g., lab, field work) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes.	RETAIN$_{Mentor}$	REMOVE$_{Mentor}$	---
Provide opportunities for mentees to talk about their racial/ethnic identity as it relates to their research experience.	RETAIN$_{Mentor}$	REMOVE$_{Mentor}$	---
Identify interactions in the mentoring relationship that could be insulting or dismissive to your mentees because of their race/ethnicity.	RETAIN$_{Mentor}$	REMOVE$_{Mentor}$	---
Identify how the privilege attached to racial/ethnic identities influences the mentoring relationship. (e.g., norms, expectations, communication style).	RETAIN$_{Mentor}$	REMOVE$_{Mentor}$	---
Ask questions about a racial/ethnic experience when I do not understand.	RETAIN$_{Mentor}$	REMOVE$_{Mentor}$	---

Note. Mentee item versions are noted in italics.

Table S2. Descriptive Statistics and Inter-item Correlations for CDA-R/E, Attitudes Subscale (Phase 1)

Item Code	Item Description	M (SD)	Item Total Correlation	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	FNE	EA	EF
	M (SD)	---	---	2.90 (1.39)	3.16 (1.41)	2.48 (1.29)	4.59 (1.26)	3.96 (1.13)	3.71 (1.25)	1.96 (1.16)	3.72 (1.32)	2.7 (1.22)	4.44 (1.25)	2.47 (1.16)	3.13 (1.25)	2.43 (1.29)	3.20 (1.34)	2.42 (1.17)	3.83 (1.34)	2.35 (1.31)	---	---	---
	Item Total Correlation	---	---	0.579	0.616	0.501	0.313	0.483	0.589	0.390	0.618	0.683	0.117	0.452	0.669	0.588	0.513	0.407	0.534	0.075	---	---	---
A1	It is important to consider the mentee's and the mentor's racial/ethnic backgrounds in mentoring relationships.	4.07 (1.19)	0.696	---	0.740**	0.325**	0.199*	0.242**	0.252**	0.448**	0.316**	0.497**	-0.038	0.120	0.323**	0.477**	0.293**	0.389**	0.297**	0.182	0.025	0.218*	0.029
A2	Race/ethnicity has an impact on the relationship between a mentor and a mentee.	3.96 (1.35)	0.583	0.721**	---	0.315**	0.190*	0.260**	0.308**	0.387**	0.372**	0.465**	0.045	0.163	0.345**	0.508**	0.390**	0.450**	0.363**	0.060	0.095	0.383**	0.210*
A3	The mentor should be responsible for initiating a conversation about racial/ethnic differences in the mentoring relationship, even if the difference presents no challenges to the relationship.	2.94 (1.27)	0.567	0.441**	0.242*	---	0.331**	0.246**	0.385**	0.208*	0.367**	0.386**	0.051	0.475**	0.475**	0.307**	0.201*	0.234*	0.210*	-0.035	0.003	0.208*	0.296**
A4	It is important for mentors to address racial/ethnic issues with mentees if they come up in the relationship.	5.12 (0.86)	0.228	0.226*	0.164	0.281**	---	0.270**	0.469**	0.009	0.313**	0.148	0.024	0.205*	0.381**	0.140	-0.009	0.055	0.282**	-0.165	0.119	0.349**	0.283**
A5	Mentoring someone with a different racial/ethnic background benefits the mentoring relationship.	4.32 (1.26)	0.634	0.451**	0.377**	0.451**	0.191*	---	0.427**	0.027	0.694**	0.266**	0.162	0.154	0.464**	0.133	0.179	0.052	0.674**	-0.008	0.155	0.213*	0.228*
A6	It is appropriate for mentors to speak about racial/ethnic differences with their mentees.	3.72 (1.31)	0.610	0.504**	0.329**	0.588**	0.244*	0.453**	---	0.085	0.540**	0.434**	0.166	0.434**	0.510**	0.355**	0.273**	0.152	0.404**	0.009	0.048	0.316**	0.279**
A7	Mentors should consider a mentee's racial/ethnic background before accepting him/her as a trainee.	1.92 (1.16)	0.402	0.326**	0.176	0.242*	-0.070	0.274**	0.277**	---	0.130	0.392**	0.027	0.188*	0.202*	0.337**	0.289**	0.408**	0.114	0.217*	-0.087	0.062	-0.118
A8	Mentoring someone with a different racial/ethnic background benefits the research.	3.98 (1.43)	0.635	0.442**	0.359**	0.383**	0.100	0.704**	0.387**	0.252**	---	0.368**	0.145	0.306**	0.526**	0.288**	0.355**	0.070	0.694**	-0.049	0.138	0.313**	0.301**
A9	It is important for mentors and mentees to talk about the mentees' racial/ethnic background during their interactions with one another.	3.01 (1.17)	0.709	0.578**	0.356**	0.585**	0.175	0.406**	0.585**	0.296**	0.556**	---	0.195*	0.482**	0.535**	0.570**	0.413**	0.439**	0.260**	0.126	-0.063	0.165	0.073
A10	I am comfortable talking about race/ethnicity in my research mentoring relationships.	4.07 (1.28)	0.313	0.115	0.012	0.391**	0.313**	0.306**	0.465**	0.064	0.187	0.264**	---	0.209*	0.054	0.216*	0.087	-0.141	0.127	-0.218*	-0.197*	0.065	0.170
A11	The mentee should be responsible for initiating a conversation about racial/ethnic differences in the mentoring relationship even if the difference presents no challenges to the relationship. (REV)	2.75 (1.29)	0.256	0.125	0.142	0.127	0.149	0.187	0.067	0.057	0.210*	0.215*	0.273**	---	0.394**	0.248**	0.262**	0.263**	0.244**	-0.064	0.010	0.128	0.225*
A12	It is important for mentors and mentees to discuss how race/ethnicity impacts the mentee's research experience.	3.51 (1.20)	0.665	0.507**	0.442**	0.524**	0.289*	0.468**	0.520**	0.205*	0.506**	0.621**	0.307**	0.249**	---	0.482**	0.419**	0.218*	0.485**	0.043	0.014	0.347**	0.329**
A13	My racial/ethnic identity is relevant to my research mentoring relationships.	2.86 (1.58)	0.662	0.543**	0.564**	0.363**	0.126	0.388**	0.394**	0.374**	0.528**	0.598**	0.162	0.129	0.428**	---	0.445	0.242	0.304	0.087	0.060	0.224*	0.114
A14	Race/ethnicity influences how effective communication is between a mentor and a mentee.	3.42 (1.33)	0.538	0.410**	0.510**	0.149	-0.020	0.289**	0.256**	0.390**	0.284**	0.364**	0.130	0.217*	0.478**	0.412**	---	0.418	0.307	0.230	0.041	0.103	-0.004
A15	Racial/Ethnic differences between mentors and mentees create challenges in the relationship. (REV)	2.86 (1.22)	0.428	0.393**	0.499**	0.107	0.042	0.135	0.210*	0.293**	0.162	0.246*	0.004	0.180	0.182	0.439**	0.543**	---	0.026	0.362	0.205*	0.080	-0.097
A16	Racial/ethnic differences between mentors and mentees enhance the mentoring relationship (e.g., exposure to new ideas or research.	4.23 (1.30)	0.642	0.448**	0.359**	0.409**	0.173	0.667**	0.395**	0.274**	0.721**	0.504**	0.259**	0.211*	0.501**	0.447**	0.300**	0.180	---	-0.068	0.102	0.415**	0.341**
A17	Addressing racial/ethnic diversity in my mentoring relationships distracts me from doing my research. (REV)	2.21 (1.10)	-0.060	-0.002	0.012	-0.060	-0.254**	-0.073	-0.108	0.219*	-0.102	-0.045	-0.259**	-0.119	-0.247**	0.028	0.154	0.287**	-0.105	---	0.008	-0.130	-0.317**
	Fear of Negative Evaluations Scale (FNE)	---	---	0.167	0.065	0.014	-0.057	-0.013	-0.097	0.169	0.145	0.150	-0.212*	0.003	0.054	0.091	0.023	-0.031	0.101	0.149	---	0.105	0.049
	SEE - Empathic Awareness (EA)	---	---	0.544**	0.399**	0.209*	0.244*	0.297**	0.159	0.052	0.438**	0.243*	-0.030	0.041	0.314**	0.318**	0.117	0.188	0.354**	-0.037	0.116	---	0.550**
	SEE - Empathic Feeling and Expression (EF)	---	---	0.258**	0.226*	0.276**	0.322**	0.275**	0.236*	-0.081	0.307**	0.187	0.499**	0.194	0.350**	0.217*	0.055	-0.117	0.323**	-0.229*	-0.063	0.408**	---

Note: Responses could range from 1 (strongly disagree) to 6 (strongly agree). Descriptive statistics and correlations for Mentor version of the scale are presented below the diagonal; descriptive statistics and correlations for the Mentee version of the scale are presented above the diagonal. Mentor N = 108; Mentee N = 115.

* $p < .05$; ** $p < .01$

Table S3. Descriptive Statistics and Inter-item Correlations for CDA-R/E, Behavior Subscale (Phase 1)

Item Code	Item Description	M (SD)	Item Total Correlation	B1	B2	B3	B4	B5	B6	B7	B10	B11	B12	B13	B14	FNE	EA	EF
	M (SD)	---	---	1.89 (1.08)	1.44 (0.75)	1.58 (0.93)	1.71 (1.04)	5.62 (0.76)	1.98 (1.18)	1.35 (0.85)	2.06 (1.14)	2.11 (1.49)	2.36 (1.64)	3.63 (1.89)	2.85 (1.73)	---	---	---
	Item Total Correlation	---	---	0.611	0.175	0.313	0.286	-0.005	0.636	0.559	0.359	0.530	0.555	0.460	0.513	---	---	---
B1	I think about how my mentee's race/ethnicity influences our mentoring relationship	2.65 (1.13)	0.664	---	0.279*	0.115	0.204	-0.044	0.386**	0.400**	0.368**	0.505**	0.488**	0.348**	0.371**	0.110	0.282*	0.272*
B2	I struggle with issues stemming from racial/ethnic differences in our mentoring relationship (REV)	1.74 (0.88)	0.403	0.568**	---	0.350**	0.535**	-0.392**	-0.029	0.112	0.420**	0.125	0.100	-0.103	-0.110	0.368**	0.168	0.121
B3	I have difficulty understanding the experiences of my mentee because of her/his race/ethnicity (REV)	2.06 (0.78)	0.464	0.460**	0.531**	---	0.371**	-0.194	0.235	0.402**	0.273*	0.127	0.177	0.044	0.192	0.072	0.048	0.216
B4	I make assumptions about my mentee's racial/ethnic background.	2.28 (0.97)	0.465	0.440**	0.374**	0.414**	---	-0.218	0.174	0.083	0.487**	0.144	0.130	0.016	0.087	0.354**	0.207	-0.014
B5	I accept my mentee for who he/she is.	5.57 (0.77)	-0.131	-0.132	-0.483**	-0.358**	-0.241*	---	0.101	0.127	-0.307**	0.054	-0.028	0.252*	0.177	-0.107	0.211	0.189
B6	I talk with my mentee about his/her racial/ethnic background.	2.47 (1.15)	0.618	0.322**	0.232	0.274*	0.382**	-0.065	---	0.563**	0.406**	0.311*	0.542**	0.383**	0.457**	0.157	-0.001	0.080
B7	I ask my mentee about how his/her racial/ethnic background impacts his/her research experience	1.99 (1.30)	0.612	0.454**	0.209	0.179	0.291*	0.021	0.631**	---	0.265	0.369	0.335	0.343	0.290	0.178	0.095	0.259*
B10	My mentee thinks about how my race/ethnicity influences our mentoring relationship.	2.48 (1.18)	0.769	0.595**	0.420**	0.500**	0.500**	-0.111	0.567**	0.449**	---	0.187	0.186	0.018	0.115	0.290*	0.149	0.066
B11	I consider aspects of the research experience (e.g., lab, field work) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes	2.56 (1.39)	0.648	0.487**	0.255*	0.271*	0.270*	0.003	0.372**	0.418**	0.640**	---	0.450	0.420	0.285	-0.164	0.078	0.168
B12	I ask questions about my mentee's racial/ethnic experience when I do not understand	3.06 (1.68)	0.609	0.366**	0.138	0.165	0.362**	0.021	0.712**	0.650**	0.431**	0.473**	---	0.302	0.410	0.128	0.138	0.122
B13	I am aware of interactions in the mentoring relationship that could be insulting or dismissive to my mentee because of his/her racial/ethnic background	2.84 (1.38)	0.573	0.466**	0.217	0.385**	0.237*	0.032	0.288*	0.325**	0.518**	0.420**	0.333**	---	0.492	0.022	0.251*	0.362**
B14	I am conscious of how the privilege attached to my racial/ethnic identity influences the mentoring relationship (e.g., norms, expectations, communication style)	3.16 (1.43)	0.581	0.451**	0.301*	0.360**	0.162	-0.010	0.244*	0.313**	0.542**	0.579**	0.314**	0.602**	---	0.073	0.147	0.172
	Fear of Negative Evaluations Scale (FNE)	---	---	0.278*	0.206	0.149	0.288*	0.031	0.232	0.194	0.266*	0.198	0.102	0.029	-0.070	---	0.152	-0.052
	SEE - Empathic Awareness (EA)	---	---	0.349**	0.300*	0.162	0.147	-0.137	0.293*	0.276*	0.413**	0.334**	0.139	0.278*	0.353**	0.184	---	0.555**
	SEE - Empathic Feeling and Expression (EF)	---	---	0.366**	0.135	0.161	0.073	0.101	0.354**	0.468**	0.364**	0.518**	0.358**	0.207	0.475**	0.053	0.486**	---

Note: Responses could range from 1 (never) to 6 (all of the time). Descriptive statistics and correlations for the Mentor version of the scale are presented below the diagonal; descriptive statistics and correlations for the Mentee version of the scale are presented above the diagonal.
Mentor N = 70; Mentee N = 65. * $p < .05$; ** $p < .01$

Table S4. Descriptive Statistics and Inter-item Correlations for CDA-R/E, Confidence Subscale (Phase 1)

Item Code	Item Description	M (SD)	Item Total Correlation	SE1	SE2	SE3	SE4	SE5	SE6	SE7	SE8	SE9	SE10	SE11	FNE	EA	EF
SE1	Discuss race/ethnicity with mentees.	4.06 (1.47)	0.787	---													
SE2	Ask mentees about their racial/ethnic background.	3.59 (1.43)	0.752	0.765**	---												
SE3	Discuss with mentees how it feels to be a minority in science.	3.84 (1.62)	0.746	0.615**	0.664**	---											
SE4	Address the role of race/ethnicity in the mentoring relationship.	3.85 (1.38)	0.829	0.765**	0.729**	0.665**	---										
SE5	Identify my own culturally-shaped assumptions	4.41 (0.92)	0.638	0.430**	0.350**	0.464**	0.487**	---									
SE6	Recognize my own unconscious biases	0.43 (0.99)	0.400	0.212*	0.178	0.269**	0.291**	0.735**	---								
SE7	Recognize aspects of the research experience (e.g., lab, field work)/mentoring relationship that may make racial/ethnic minority students feel vulnerable to confirming stereotypes	3.8 (1.27)	0.673	0.631**	0.495**	0.521**	0.585**	0.572**	0.315**	---							
SE8	Provide opportunities for mentees to talk about their racial/ethnic identity as it relates to their research experience.	4.14 (1.36)	0.723	0.625**	0.598**	0.581**	0.742**	0.513**	0.275**	0.517**	---						
SE9	Identify interactions in the mentoring relationship that could be insulting or dismissive to your mentee because of his/her racial/ethnic background	4.12 (1.13)	0.656	0.555**	0.547**	0.470**	0.617**	0.420**	0.358**	0.498**	0.513**	---					
SE10	Identify how the privilege attached to racial/ethnic identities influences the mentoring relationship	4.07 (1.17)	0.549	0.399**	0.365**	0.526**	0.405**	0.443**	0.282**	0.527**	0.400**	0.530**	---				
SE11	Ask questions about a racial/ethnic experience when I do not understand	4.44 (1.40)	0.678	0.629	0.660	0.633	0.640	0.471	0.335	0.373	0.510	0.382	0.298	---			
	Fear of Negative Evaluations Scale (FNE)	---	---	-0.263**	-0.116	-0.081	-0.060	-0.089	0.036	-0.215*	-0.094	0.017	-0.072	-0.117	---		
	SEE - Empathic Awareness (EA)	---	---	-0.038	0.032	0.256**	0.094	0.372**	0.261**	0.242*	0.230*	0.022	0.303**	0.182	0.156	---	
	SEE - Empathic Feeling and Expression (EF)	---	---	0.481**	0.416**	0.441**	0.476**	0.344**	0.161	0.376**	0.364**	0.322**	0.441**	0.327**	0.008	0.428**	---

Note: Responses could range from 1 (not at all confident) to 6 (completely confident). N = 103

$* p < .05; ** p < .01$

Table S5. Descriptive Statistics and Inter-item Correlations for CDA-R/E, Motivation Subscale (Phase 1)

Item Code	Item Description	M (SD)	Item Total Correlation	Mot2	Mot4	Mot5	Mot6	Mot7	Mot8	Mot9	Mot10	Mot11	FNE	EA	EF
Mot2	Ask mentees about their racial/ethnic background.	3.44 (1.64)	0.526	---											
Mot4	Address the role of race/ethnicity in the mentoring relationship.	4.17 (1.24)	0.680	0.449**	---										
Mot5	Identify my own culturally-shaped assumptions	4.97 (1.17)	0.578	0.377**	0.499**	---									
Mot6	Recognize my own unconscious biases	5.41 (0.83)	0.527	0.171	0.337**	0.460**	---								
Mot7	Recognize aspects of the research experience (e.g., lab, field work)/mentoring relationship that may make racial/ethnic minority students feel vulnerable to confirming stereotypes	4.72 (1.23)	0.562	0.165	0.502**	0.366**	0.562**	---							
Mot8	Provide opportunities for mentees to talk about their racial/ethnic identity as it relates to their research experience.	4.44 (1.35)	0.586	0.473**	0.500**	0.324**	0.349**	0.447**	---						
Mot9	Identify interactions in the mentoring relationship that could be insulting or dismissive to your mentees because of their race/ethnicity	5.25 (0.97)	0.542	0.252**	0.479**	0.433**	0.525**	0.458**	0.313**	---					
Mot10	Identify how the privilege attached to racial/ethnic identities influences the mentoring relationship	4.11 (1.43)	0.575	0.328**	0.468**	0.432**	0.321**	0.427**	0.357**	0.352**	---				
Mot11	Ask questions about a racial/ethnic experience when I do not understand	4.12 (1.42)	0.597	0.584**	0.422**	0.335**	0.317**	0.317**	0.407**	0.300**	0.466**	---			
	Fear of Negative Evaluations Scale (FNE)	---	---	0.087	-0.003	0.127	0.111	0.084	0.096	0.109	0.020	-0.152	---		
	SEE - Empathic Awareness (EA)	---	---	0.154	0.300**	0.315**	0.292**	0.368**	0.318**	0.376**	0.435**	0.259**	0.182	---	
	SEE - Empathic Feeling and Expression (EF)	---	---	0.313**	0.356**	0.325**	0.191	0.265**	0.390**	0.336**	0.368**	0.324**	0.043	0.406**	---

Note: Responses could range from 1 (not at all motivated) to 6 (extremely motivated). N = 113

* $p < .05$; ** $p < .01$

Table S6. Grade Response Model Parameter Estimates and Item-Fit Statistics for the CDA-R/E, Attitudes Subscale (Mentees; Phase 2)

Item	α	b_1	b_2	b_3	b_4	b_5	S-χ^2	p
				GR model 4-item six category scale				
A8	2.31 (0.16)	-2.55 (0.14)	-1.67 (0.09)	-1.11 (0.07)	-0.01 (0.05)	1.06 (0.06)	170.60	<.001
A9	2.10 (0.14)	-1.99 (0.11)	-0.86 (0.06)	-0.15 (0.05)	0.85 (0.06)	1.73 (0.10)	191.86	<.001
A12	2.46 (0.18)	-2.10 (0.11)	-1.27 (0.07)	-0.65 (0.05)	0.34 (0.05)	1.34 (0.08)	158.05	<.001
A16	2.41 (0.18)	-2.13 (0.12)	-1.49 (0.08)	-0.94 (0.06)	0.18 (0.05)	1.10 (0.06)	154.70	<.001

-2LL	AIC	BIC	M^2	RMSEA
		Fit Statistics		
11669.24	11717.24	11836.65	1438.98	0.09

Note. GR = graded response model; a = item slope (discrimination parameter; b = item threshold (difficulty, location) parameter; S-χ^2 = item-fit statistics. p = p value associated with item fit statistics. Values in parenthesis are item parameter standard error estimate. -2LL = -2 log likelihood; AIC = Akaike information criterion; BIC = Bayesian information criterion; M^2 = M^2 limited information goodness of fit statistic; RMSEA = Root Mean Square Error of Approximation.

Table S7. Graded Response Model Parameter Estimates and Item-Fit Statistics for the CDA-R/E, Attitudes Subscale (Mentors; Phase 2)

Item	GR model 7-item six category scale								GR model 6-item five category scale						
	α	b_1	b_2	b_3	b_4	b_5	S-χ^2	p	α	b_1	b_2	b_3	b_4	S-χ^2	p
A1	2.44	-1.60	-0.93	-0.37	0.48	1.39	90.46	0.01	2.12	-0.96	-0.38	0.51	1.46	59.34	0.09
	(0.26)	(0.16)	(0.11)	(0.09)	(0.09)	(0.13)			(0.23)	(0.11)	(0.09)	(0.11)	(0.16)		
A2	1.87	-2.09	-1.20	-0.63	-0.57	1.43	74.05	0.26	---	---	---	---	---	---	---
	(0.20)	(0.22)	(0.14)	(0.11)	(0.10)	(0.14)									
A8	1.33	-3.27	-2.16	-1.54	-0.18	0.94	67.40	0.46	1.36	-2.15	-1.54	-0.19	0.93	54.00	0.36
	(0.16)	(0.42)	(0.26)	(0.20)	(0.12)	(0.14)			(0.17)	(0.25)	(0.19)	(0.11)	(0.16)		
A9	2.54	-1.75	-0.56	0.14	1.13	2.09	66.38	0.24	2.57	-0.57	0.14	1.13	2.07	50.56	0.12
	(0.26)	(0.17)	(0.10)	(0.08)	(0.11)	(0.17)			(0.29)	(0.09)	(0.09)	(0.13)	(0.20)		
A12	3.17	-1.79	-0.83	-0.22	0.60	1.44	64.51	0.11	3.56	-0.82	-0.20	0.58	1.41	52.08	0.03
	(0.36)	(0.17)	(0.10)	(0.08)	(0.08)	(0.12)			(0.47)	(0.08)	(0.08)	(0.10)	(0.14)		
A13	1.92	-1.07	-0.24	0.23	1.01	1.92	75.63	0.27	2.07	-0.19	0.25	0.99	1.84	63.56	0.04
	(0.21)	(0.14)	(0.10)	(0.09)	(0.12)	(0.18)			(0.25)	(0.09)	(0.1)	(0.13)	(0.20)		
A16	1.70	-2.34	-1.66	-0.72	0.51	1.63	80.91	0.10	1.67	-1.73	-0.75	0.52	1.65	59.70	0.19
	(0.18)	(0.26)	(0.19)	(0.12)	(0.10)	(0.16)			(0.19)	(0.18)	(0.11)	(0.12)	(0.19)		

	Fit Statistics								Fit Statistics				
	-2LL	AIC	BIC	M^2	RMSEA				-2LL	AIC	BIC	M^2	RMSEA
	5985.92	6069.92	6225.62	1142.58	0.06				4653.87	4717.87	4825.08	376.34	0.04

Note. GR = graded response model; a = item slope (discrimination parameter; b = item threshold (difficulty, location) parameter; S-χ^2 = item-fit statistics. *p* = p value associated with item fit statistics. Values in parenthesis are item parameter standard error estimate. -2LL = -2 log likelihood; AIC = Akaike information criterion; BIC = Bayesian information criterion; M^2 = M^2 limited information goodness of fit statistic; RMSEA = Root Mean Square Error of Approximation.

Table S8. Graded Response Model Parameter Estimates and Item-Fit Statistics for the CDA-R/E, Behavior Subscale (Mentors; Phase 2)

Item	GR model 8-item six category scale								GR model 7-item five category scale						
	α	b_1	b_2	b_3	b_4	b_5	S-χ^2	p	α	b_1	b_2	b_3	b_4	S-χ^2	p
B1	2.68	-1.25	-0.19	0.73	1.21	2.10	60.58	0.49	2.72	-1.26	-0.18	0.76	2.08	31.07	0.70
	(0.26)	(0.11)	(0.07)	(0.09)	(0.12)	(0.19)			(0.28)	(0.12)	(0.08)	(0.09)	(0.18)		
B2	1.47	-2.76	-1.72	-0.47	0.71	1.51	81.46	0.29	1.29	-3.02	-1.87	-0.47	1.62	49.52	0.45
	(0.16)	(0.31)	(0.18)	(0.10)	(0.13)	(0.18)			(0.16)	(0.37)	(0.23)	(012)	(0.2)		
B3	2.02	-1.45	-0.32	0.72	1.33	2.17	92.32	0.04	2.03	-1.45	-0.31	0.74	2.16	38.83	0.73
	(0.20)	(0.14)	(0.08)	(0.11)	(0.14)	(0.21)			(0.21)	(0.15)	(0.09)	(0.10)	(0.20)		
B4	1.87	-2.64	-1.38	-0.17	0.55	1.49	73.22	0.31	1.77	-2.72	-1.42	-0.16	1.53	51.22	0.16
	(0.19)	(0.27)	(0.14)	(0.09)	(0.10)	(0.16)			(0.19)	(0.30)	(0.16)	(0.09)	(0.15)		
B5	3.27	-1.42	-0.56	0.33	0.78	1.63	52.50	0.65	3.19	-1.45	-0.56	0.35	1.62	37.39	0.36
	(0.36)	(0.11)	(0.07)	(0.08)	(0.10)	(0.15)			(0.35)	(0.13)	(0.08)	(0.08)	(0.13)		
B6	1.49	-3.75	-2.03	-0.58	0.35	1.41	73.69	0.39	---	---	---	---	---	---	---
	(0.17)	(0.49)	(0.22)	(0.11)	(0.11)	(0.17)									
B7	2.60	-1.39	-0.33	0.46	0.98	1.85	56.14	0.55	2.53	-1.41	-0.32	0.50	1.84	29.74	0.90
	(0.26)	(0.12)	(0.07)	(0.09)	(0.11)	(0.17)			(0.26)	(0.13)	(0.08)	(0.08)	(0.16)		
B8	2.69	-1.43	-0.48	0.38	0.80	1.40	86.42	0.03	2.66	-1.45	-0.48	0.40	1.39	43.86	0.27
	(0.28)	(0.12)	(0.07)	(0.08)	(0.10)	(0.14)			(0.27)	(0.13)	(0.08)	(0.08)	(0.13)		

Fit Statistics						Fit Statistics				
-2LL	AIC	BIC	M^2	RMSEA		-2LL	AIC	BIC	M^2	RMSEA
6573.65	6669.65	6847.59	1266.57	0.05		4995.71	5065.71	5195.46	661.75	0.06

Note. GR = graded response model; a = item slope (discrimination parameter; b = item threshold (difficulty, location) parameter; S-χ^2 = item-fit statistics. p = p value associated with item fit statistics. Values in parenthesis are item parameter standard error estimate. -2LL = -2 log likelihood; AIC = Akaike information criterion; BIC = Bayesian information criterion; M^2 = M^2 limited information goodness of fit statistic; RMSEA = Root Mean Square Error of Approximation.

Table S9. Graded Response Model Parameter Estimates and Item-Fit Statistics for the CDA-R/E, Confidence Subscale (Mentors; Phase 2)

Item	GR model 7-item six category scale								GR model 5-item five category scale						
	α	b_1	b_2	b_3	b_4	b_5	S-χ^2	p	α	b_1	b_2	b_3	b_4	S-χ^2	p
SE3	2.52	-1.67	-1.09	-0.39	0.16	1.27	65.82	0.20	2.68	-1.05	-0.38	0.16	1.24	39.82	0.30
	(0.25)	(0.14)	(0.10)	(0.08)	(0.09)	(0.13)			(0.29)	(0.12)	(0.09)	(0.08)	(0.11)		
SE4	3.70	-1.96	-1.18	-0.45	0.20	1.25	59.45	0.09	3.61	-1.19	-0.43	0.22	1.27	38.48	0.14
	(0.42)	(0.15)	(0.09)	(0.08)	(0.08)	(0.12)			(0.45)	(0.12)	(0.09)	(0.08)	(0.10)		
SE7	1.92	-2.76	-1.66	-0.79	0.13	1.72	59.78	0.37	1.85	-1.70	-0.80	0.14	1.76	43.41	0.33
	(0.20)	(0.29)	(0.15)	(0.10)	(0.10)	(0.18)			(0.20)	(0.18)	(0.12)	(0.09)	(0.17)		
SE8	2.97	-2.34	-1.53	-0.89	-0.15	0.91	54.03	0.17	3.14	-1.49	-0.87	-0.14	-0.90	41.06	0.13
	(0.31)	(0.21)	(0.12)	(0.09)	(0.08)	(0.11)			(0.38)	(0.15)	(0.11)	(0.08)	(0.09)		
SE9	1.82	-2.74	-1.98	-1.10	-0.12	1.61	70.11	0.08	1.68	-2.07	-1.14	-0.12	1.66	46.35	0.34
	(0.20)	(0.29)	(0.19)	(0.12)	(0.10)	(0.18)			(0.19)	(0.23)	(0.15)	(0.10)	(0.17)		
SE10	1.88	-2.67	-1.89	-0.97	0.08	1.44	66.00	0.28	---	---	---	---	---	---	---
	(0.20)	(0.28)	(0.17)	(0.11)	(0.10)	(0.16)									
SE11	2.42	-2.25	-1.45	-0.82	-0.12	0.91	91.68	< .01	---	---	---	---	---	---	---
	(0.25)	(0.20)	(0.12)	(0.09_	(0.08)	(0.12)									
	Fit Statistics								Fit Statistics						
	-2LL	AIC	BIC	M^2	RMSEA				-2LL	AIC	BIC	M^2	RMSEA		
	5484.20	5568.20	5723.89	1670.78	0.09				3797.39	3847.39	3940.07	290.63	0.05		

Note. GR = graded response model; a = item slope (discrimination parameter; b = item threshold (difficulty, location) parameter; S-χ^2 = item-fit statistics. *p* = p value associated with item fit statistics. Values in parenthesis are item parameter standard error estimate. -2LL = -2 log likelihood; AIC = Akaike information criterion; BIC = Bayesian information criterion; M^2 = M^2 limited information goodness of fit statistic; RMSEA = Root Mean Square Error of Approximation.

Table S10. Reduced Graded Response Model Parameter Estimates and Item-Fit Statistics for the CDA-R/E, Motivation Subscale (Mentors; Phase 2)

Item	Reduced GR model 6-item six category scale								Reduced GR model 4-item five category scale						
	α	b_1	b_2	b_3	b_4	b_5	S-χ^2	p	α	b_1	b_2	b_3	b_4	S-χ^2	p
Mot4	2.31	-2.40	-1.72	-0.82	0.03	0.94	70.87	<.01	2.55	-1.66	0.79	0.05	0.92	60.87	<.01
	(0.22)	(0.26)	(0.17)	(0.10)	(0.09)	(0.13)			(0.44)	(0.25)	(0.14)	(0.09)	(0.13)		
Mot7	2.31	-2.79	-1.85	-1.25	-0.54	0.43	57.57	0.03	2.55	-1.81	-1.21	-0.51	-0.43	34.75	0.12
	(0.22)	(0.34)	(0.19)	(0.13)	(0.09)	(0.10)			(0.44)	(0.28)	(0.20)	(0.12)	(0.10)		
Mot8	2.31	-2.77	-2.03	-1.26	-0.24	0.68	53.85	0.22	2.55	-1.96	-1.21	-0.22	0.66	36.58	0.10
	(0.22)	(0.34)	(0.21)	(0.13)	(0.09)	(0.12)			(0.44)	(0.30)	(0.19)	(0.10)	(0.11)		
Mot9	2.31	-3.26	-2.92	-1.79	-0.74	0.11	60.41	<.001	---	---	---	---	---	---	---
	(0.22)	(0.51)	(0.38)	(0.18)	(0.10)	(0.09)									
Mot10	2.31	-2.21	-1.75	-1.02	-0.08	0.88	53.85	0.12	2.55	-1.69	-0.97	-0.06	-0.86	37.6	0.13
	(0.22)	(0.23)	(0.18)	(0.12)	(0.09)	(0.13)			(0.44)	(0.25)	(0.16)	(0.09)	(0.13)		
Mot11	2.31	-2.45	-1.81	-1.23	-0.09	0.95	90.52	<.001	---	---	---	---	---	---	---
	(0.22)	(0.27)	(0.18)	(0.13)	(0.09)	(0.13)									

Fit Statistics							Fit Statistics				
-2LL	AIC	BIC	M^2	RMSEA			-2LL	AIC	BIC	M^2	RMSEA
4071.21	4133.21	4248.14	4146.38	.18			2755.36	2789.36	2852.38	407.86	0.10

Note. GR = graded response model; a = item slope (discrimination parameter; b = item threshold (difficulty, location) parameter; S-χ^2 = item-fit statistics. *p* = p value associated with item fit statistics. Values in parenthesis are item parameter standard error estimate. -2LL = -2 log likelihood; AIC = Akaike information criterion; BIC = Bayesian information criterion; M^2 = M^2 limited information goodness of fit statistic; RMSEA = Root Mean Square Error of Approximation.

Table S11. Descriptive Statistics and Inter-item Correlations for CDA-R/E, Attitudes Subscale (Phase 3)

	M (SD)	A1	A8	A9	A12	A13	A16
M (SD)	---	3.40 (1.13)	4.17 (0.93)	3.59 (1.06)	---	3.30 (1.16)	3.87 (0.94)
A1. It is important to consider the mentee's and the mentor's race/ethnicity in mentoring relationships.	3.97 (.088)	---	.284**	.529**	---	.592**	.429**
A8. Mentoring someone with a different racial/ethnic background benefits the research (e.g., exposure to new ideas).	4.28 (0.78)	.427**	---	.398**	---	.224**	.479**
A9. It is important for mentors and mentees to talk together about the mentee's racial/ethnic background.	3.50 (0.91)	.582**	.495**	---	---	.517**	.470**
A12. It is important for mentors and mentees to discuss how race/ethnicity impacts the mentee's research experience.	3.73 (0.93)	.565**	.420**	.740**	---	---	---
A13. My racial/ethnic identity is relevant to my research mentoring relationships.	3.48 (1.15)	.555**	.330**	.525**	.573**	---	.431**
A16. Racial/ethnic differences between mentors and mentees enriches the research mentoring relationship.	3.97 (0.83)	.512**	.506**	.448**	.418**	.485**	---

Note. Mentor Ns 274-275. Mentee Ns 721-723. Item A12 was omitted from the mentee survey due to survey error.

*p < .05; ** p < .01

Table S12. Descriptive Statistics and Inter-item Correlations for CDA-R/E, Behaviors Subscale (Phase 3)

Item	M (SD)	B1	B2	B3	B4	B5	B7	B8
M (SD)	---	2.78 (1.38)	3.28 (1.24)	3.11 (1.46)	---	2.76 (1.43)	---	3.44 (1.53)
B1. I created opportunities for my mentees to bring up issues of race/ethnicity as they arose.	3.14 (0.97)	---	.554**	.661**	---	.691**	---	.505**
B2. I encouraged mentees to think about how the research relates to their own lived experience	3.44 (1.02)	.462**	---	.503**	---	.547**	---	.448**
B3. I was willing to discuss race and ethnicity with my mentees, even if it made me uncomfortable.	3.85 (1.00)	.508**	.213**	---	---	.680**	---	.654**
B4. I reflected upon how the research experience might differ for mentees from different racial/ethnic groups.	3.65 (0.99)	.430**	.379**	.255**	---	---	---	---
B5. I raised the topic of race/ethnicity in my research mentoring relationships when it was relevant.	3.08 (1.12)	.615**	.486**	.353**	.504**	---	---	.623**
B7. I implemented specific strategies to address racial/ethnic diversity in my research mentoring relationships.	2.82 (1.08)	.553**	.450**	.302**	.457**	.640**	---	---
B8. I approached the topic of race/ethnicity with my mentee(s) in a respectful manner.	4.14 (1.06)	.456**	.232**	.361**	.279**	.451**	.373**	---

Note. Mentor Ns 266-269. Mentee Ns 702-705. Items B4 and B7 are not included in the mentee version of the Behaviors subscale; as a result, correlations for these items are not available for the mentee sample.

*p < .05; ** p < .01

Table S13. Descriptive Statistics and Inter-item Correlations for CDA-R/E, Confidence Subscale (Phase 3)

Item	M (SD)	SE3	SE4	SE7	SE8	SE9
SE3. Discuss with mentees how it feels to be a minority in science.	3.74 (0.94)	---				
SE4. Take advantage of opportunities to address race/ethnicity in the research mentoring relationship.	3.61 (0.88)	.526**	---			
SE7. Recognize aspects of the research experience (e.g., lab, field work) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes.	3.66 (0.88)	.467**	.559**	---		
SE8. Provide opportunities for mentees to talk about their racial/ethnic identity as it relates to their research experience should the occasion arise.	3.94 (0.84)	.456**	.571**	.462**	---	
SE9. Notice interactions in the mentoring relationship that could be insulting or dismissive to mentees because of their race/ethnicity.	3.88 (0.81)	.363**	.428**	.507**	.511**	---

Note. Mentor Ns 269-270.

*p < .05; ** p < .01

Cultural Diversity Awareness Scale – Race/Ethnicity Version (CDA-R/E)

1. Description

Culturally Responsive Mentoring (Byars-Winston, 2014) refers to mentors who acknowledge their own cultural identity and the identities of their mentees and use this knowledge to improve their mentoring relationships. In order to become a culturally responsive mentor, one must first become aware of cultural diversity and its role in mentoring relationships.   Cultural diversity awareness (CDA) refers to the ability to recognize culturally shaped beliefs, perceptions, and judgments and awareness of cultural differences and similarities (National Center for Cultural Competence, n.d.). A mentor who is proficient in CDA is sensitive to occasions to be culturally responsive, confident to do so, and attends to cultural diversity in his or her research mentoring relationships.

The Cultural Diversity Awareness Scale- Race/Ethnicity Version (CDA-R/E) is conceptualized as a three-factor, 17-item scale for mentors:

1. **Attitudes** (6 items) measures mentors' and mentees' attitudes about cultural diversity awareness and its place in the mentoring relationship

2. **Behaviors** (6 items) measures the extent to which mentors incorporated CDA practices into their research mentoring relationships

3. **Confidence** (5 items) measures the degree of confidence that mentors have in their ability to complete CDA-relevant tasks. These items were developed based on the concept of self-efficacy, or the belief in one's ability to complete a given task (Bandura, 1997).

A complementary 9-item scale for mentees assessing mentees' attitudes about CDA-R/E and mentees' perceptions of mentor's CDA/R/E behaviors is also provided in this manual.

The CDA-R/E Scale was developed to assess mentors' levels of CDA and to study the influence of mentors' CDA on the experiences of mentees in research mentoring relationships.

2. Validation and Reliability Data
   2.1. <u>Mentor Scale Validation.</u> The CDA-R/E scale for mentees was validated with a national sample of 275 research mentors. Demographic information for the sample is provided below:

Demographic Information	Percentage of Sample
Racial/Ethnic Identity	
American Indian/Alaska Native	0.0%
Asian	10.2%

Black/African American	6.9%
Native Hawaiian/Pacific Islander	0.4%
White	67.6%
Hispanic	10.5%
Multicultural/Multiethnic	6.2%
Other	0.0%
Prefer not to report/Missing	8.7%
Gender Identity	
Male	37.8%
Female	60.0%
Other	0.7%
Prefer not to report/Missing	1.5%

2.1.1   Factor Structure. A confirmatory factor analysis using the WSLMV estimator in MPlus statistical software package revealed that a 3-factor solution was a good fit with the data, X^2 (116) = 220.296, p <.001, RMSEA = 0.057, CFI = 0.976

2.1.2   Internal consistency. Cronbach's alpha coefficient for the CDA-R/E Attitudes, Behaviors and Confidence subscales with our sample was as follows:

Subscale	α
Attitudes	.857
Behaviors	.833
Confidence	.823

2.1.3   Relationship between CDA-R/E subscales.   CDA-R/E Attitudes was found to positively and significantly correlate with CDA-R/E Behaviors, r = .469, p <.001, and with CDA-R/E Confidence, r = .387, p<.001. CDA-R/E Behaviors correlated positively and significantly with CDA-R/E Confidence, r = .537, p< .001.

2.2. <u>Mentee Scale Validation</u>. The CDA-R/E scale for mentees was validated with a national sample of 899 undergraduates. Demographic information for the sample is provided below:

Demographic Information	Percentage of Sample
Racial/Ethnic Identity	
American Indian/Alaska Native	0.2%
Asian	5.9%
Black/African American	27.7%
Native Hawaiian/Pacific Islander	0.4%
White	5.8%
Hispanic	27.6%
Multicultural/Multiethnic	11.3%
Other	0.8%
Prefer not to report/Missing	20.3%
Gender Identity	
Male	22.5%
Female	54.6%
Transgender	0.2%
Other	0.1%
Prefer not to report/Missing	19.5%

2.2.1   Factor Structure. A confirmatory factor analysis using the WSLMV estimator in MPlus statistical software package revealed that a 2-factor solution was a good fit with the data, X^2 (26) = 95.71, p <.001, RMSEA = 0.06, CFI = 0.991

2.2.2. Internal consistency. Cronbach's alpha coefficient for the CDA-R/E Attitudes and Behaviors subscales with our sample was as follows:

Subscale	α
Attitudes	.797
Behaviors	.877

2.2.3. Relationship between CDA-R/E subscales.   CDA-R/E Attitudes was found to positively and significantly correlate with CDA-R/E Behaviors, r = .282, p <.001.

CDA-R/E Scale – Mentors

CDA-R/E Attitudes: 6 items

Directions: Please indicate how much you disagree or agree with each of the following statements:

A1	It is important to consider the mentee's and the mentor's race/ethnicity in mentoring relationships.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A2	Mentoring someone with a different racial/ethnic background benefits the research (e.g., exposure to new ideas).	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A3	It is important for mentors and mentees to talk together about the mentee's racial/ethnic background.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A4	It is important for mentors and mentees to discuss how race/ethnicity impacts the mentee's research experience.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A5	My racial/ethnic identity is relevant to my research mentoring relationships.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A6	Racial/ethnic differences between mentors and mentees enriches the research mentoring relationship.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Scoring: Responses should be scored as follows:

Response	Score
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Responses to items may be summed together and divided by the total number of items to calculate a mean subscale score.

CDA-R/E Behaviors: 6 items

Directions: Please indicate how frequently each of the following has occurred in your research mentoring relationships during the past 12 months, including any current research mentoring relationships.

B1	I created opportunities for my mentees to bring up issues of race/ethnicity as they arose.	Never	Rarely	Sometimes	Frequently	All of the time
B2	I encouraged mentees to think about how the research relates to their own lived experience.	Never	Rarely	Sometimes	Frequently	All of the time
B3	I reflected upon how the research experience might differ for mentees from different racial/ethnic groups.	Never	Rarely	Sometimes	Frequently	All of the time
B4	I raised the topic of race/ethnicity in my research mentoring relationships when it was relevant.	Never	Rarely	Sometimes	Frequently	All of the time
B5	I implemented specific strategies to address racial/ethnic diversity in my research mentoring relationships.	Never	Rarely	Sometimes	Frequently	All of the time
B6	I approached the topic of race/ethnicity with my mentee(s) in a respectful manner.	Never	Rarely	Sometimes	Frequently	All of the time

Scoring: Responses should be scored as follows:

Response	Score
Never	1
Rarely	2
Sometimes	3
Frequently	4
All of the time	5

Responses to items may be summed together and divided by the total number of items to calculate a mean subscale score.

CDA-R/E Confidence: 5 items

Directions: How confident are you in your ability to do the following in your research mentoring relationships?

		1 not at all confident	2	3	4	5 completely confident
SE1	Discuss with mentees how it feels to be a minority in science.	1	2	3	4	5
SE2	Take advantage of opportunities to address race/ethnicity in the research mentoring relationship.	1	2	3	4	5
SE3	Recognize aspects of the research experience (e.g., lab, field work) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes.	1	2	3	4	5
SE4	Provide opportunities for mentees to talk about their racial/ethnic identity as it relates to their research experience should the occasion arise	1	2	3	4	5
SE5	Notice interactions in the mentoring relationship that could be insulting or dismissive to mentees because of their race/ethnicity.	1	2	3	4	5

Scoring: Responses should be scored as follows:

Response	Score
not at all confident	1
	2
	3
	4
completely confident	5

Responses to items may be summed together and divided by the total number of items to calculate a mean subscale score.

CDA-R/E Scale – Mentees

CDA-R/E Attitudes: 4 items

Directions: Please indicate how much you disagree or agree with each of the following statements:

A1	It is important to consider the mentee's and the mentor's race/ethnicity in mentoring relationships.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A3	It is important for mentors and mentees to talk together about the mentee's racial/ethnic background.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A5	My racial/ethnic identity is relevant to my research mentoring relationships.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A6	Racial/ethnic differences between mentors and mentees enriches the research mentoring relationship.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Scoring: Responses should be scored as follows:

Response	Score
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

Responses to items may be summed together and divided by the total number of items to calculate a mean subscale score.

CDA-R/E Behaviors: 5 items

Directions: Please indicate how frequently each of the following occurred in your relationship with your primary research mentor.

B1	My mentor created opportunities for me to bring up issues of race/ethnicity as they arose.	Never	Rarely	Sometimes	Frequently	All of the time
B2	My mentor encouraged me to think about how the research related to my own lived experience.	Never	Rarely	Sometimes	Frequently	All of the time
B3	My mentor was willing to discuss race and ethnicity, even if it may have been uncomfortable for him/her.	Never	Rarely	Sometimes	Frequently	All of the time
B4	My mentor raised the topic of race/ethnicity in our research mentoring relationship when it was relevant.	Never	Rarely	Sometimes	Frequently	All of the time
B5	My mentor approached the topic of race/ethnicity with me in a respectful manner.	Never	Rarely	Sometimes	Frequently	All of the time

Scoring: Responses should be scored as follows:

Response	Score
Never	1
Rarely	2
Sometimes	3
Frequently	4
All of the time	5

Responses to items may be summed together and divided by the total number of items to calculate a mean subscale score.