

Interprofessional Cancer Research Training – Marriott et al.

Appendix C. Logic Model and Analysis Plan for the Knight Scholars Program

Logic Model

A logic model was used to align evaluation with the program (Table C1).

Table C1. Logic model guiding evaluation of the Knight Scholars Program

Overarching Goal of the Knight Scholars Program		
To increase the number and diversity of students who successfully pursue a career in cancer research, through creating a program that provides academic and local community support to high school students to enhance STEM identity and STEM resilience, <i>regardless of race/ ethnicity or place of birth.</i>		
Specific Aims		
1) Increase the number of underrepresented Oregon high school students who participate in cancer research experiences.	2) Develop ongoing support for students in their “home community” for continued engagement in STEM activities	3) Create a culture of shared experience through student involvement in cancer-related community programs
Activities and Strategies		
<ul style="list-style-type: none"> - Alignment with OnTrack OHSU for diverse student recruitment - Student training experiences of 1-week, 1-month and 3-months to promote research careers across cancer continuum - Psychosocial support of students in research - Near peer-mentoring 	<ul style="list-style-type: none"> - 8 day residential teacher professional development (TPD) program - Formal links to local OHSU research liaisons who work with regional students - Alignment with regional AHECs/STEM hubs 	<ul style="list-style-type: none"> - Clinical shadowing in students’ communities - Local research projects that identify local cancer issues to increase relevance - Outreach in community and student dissemination about local needs - External advisory board to oversee integration of experiences
Methods and Data Sources for Measuring Impact		
<ul style="list-style-type: none"> - Educational cohort to assess change over time, compared to peer comparison groups - Collection of demographics and student identity factors in STEM and research - Feedback & monthly check-ins w/ students - Pre-post change in research mentors 	<ul style="list-style-type: none"> - Pre/post teacher change in efficacy compared to teacher comparison group - Monthly check-ins with teachers and liaisons on needs and issues - Student outcomes in STEM using annual surveys 	<ul style="list-style-type: none"> - Partner surveys and interviews - Coding the quality and type (e.g. clinical, outreach) of shadowing experiences; rubrics will assess feedback from student and partner perspectives.
Proximal Indicators of Success		
<ul style="list-style-type: none"> - # applications from diverse, rural students - Interim assessment of student feedback to identify programmatic refinements - Coding of cancer thematic areas most interesting to students to increase # trainings 	<ul style="list-style-type: none"> - # applications from target regions - Interim assessment of TPD ratings - # and type of collaborations and student interactions with AHECs, rural campuses, STEM hubs 	<ul style="list-style-type: none"> - # of partners and shadowing experiences in local hospitals and non-profits. - Interim feedback to ensure spectrum of cancer continuum is represented
Outcomes		
<ul style="list-style-type: none"> - Engaged HS students interested in returning for additional training in cancer research - Grad students with mentorship experience 	<ul style="list-style-type: none"> - Teachers who feel prepared to share cancer career trajectories with students guide students’ community projects 	<ul style="list-style-type: none"> - Network of cross-sector collaborations across state, with aim to reduce cancer through research, education, and training
Impacts		
<ul style="list-style-type: none"> - Participation will increase students’ STEM interest, identity (self-efficacy, academic identity, growth mindset) and STEM resilience (motivational resilience) to pursue research 	<ul style="list-style-type: none"> - Improved TPD for educators that raise awareness of cancer careers - Support of high school students in preparing for STEM success 	<ul style="list-style-type: none"> - Increased # of statewide collaborative partnerships in cancer research. - Increased community awareness of local cancer issues and support of local students in cancer research

Analysis Plan of the Knight Scholars Program

Timepoints and REDCap variable naming conventions

Surveys were administered online in REDCap. Students were sent surveys before and after the program, with timing conventions and REDCap variable names described in Table C2. When the 2020 summer program was cancelled due to COVID-19, a follow up survey was sent to students to understand impact.

Table C2. Timepoints for Analysis and Variables in REDCap

Timepoint	Variable Suffix
KSP Introduction- PRE	pre1
KSP Introduction- POST	post1
KSP Introduction- Comparison	comp1
KSP Introduction Follow Up	f1
KSP Immersion- PRE	pre2
KSP Immersion- POST	post2
KSP Immersion- Comparison	_comp2

Instrument Order and Assessment Groups

Instruments (e.g., questions, sources) and described in sections below. The timeline of administration to intervention and comparison students is shown in Table C3.

Table C3. Instrument order and assessment timeline for the Knight Scholars Program

Instrument	Items	Introduction Program			Immersion Program		
		Interv Pre	Interv Post	Comp	Interv Pre	Interv Post	Comp
BIS-Brief	8	x		x	x		x
Grit-S	8	x		x	x		x
Science Self-Efficacy	24	x		x	x		x
Mindset	5	x		x	x		x
Science Identity	6	x	x	x	x	x	x
Motivation (SDT-Science)	21	x	x	x	x	x	x
Attitudes about Biomedical Research	8	x	x	x	x	x	x
STEM interest	22	x	x	x	x	x	x
URSSA*	5		x	x		x	x
Intervention Group Post-test	1		x			x	
Comparison Group Questions	3			x			x

*Different prompt for comparison and intervention groups

Statistical Analysis Plan

The data analysis plan for evaluation instruments is described in Table C4.

Table C4. Statistical analysis for each instrument

Instrument	Analysis
BIS-Brief	T Test: pre x comp
Grit-S	T Test: pre x comp
Science Self-Efficacy	T Test: pre x comp
Mindset	T Test: pre x comp
Science Identity	Paired t test: pre x post; T Test: post x comp
Motivation (SDT-Science)	Paired t test: pre x post; T Test: post x comp
Attitudes about Biomedical Research	Paired t test: pre x post; T Test: post x comp
STEM interest	Paired t test: pre x post; T Test: post x comp
URSSA*	T Test: post x comp
Intervention Group Post-test	Qualitative analysis
Comparison Group Questions	Qualitative analysis

Measures

Impulsivity (BIS-Brief)

Source: Steinberg, L., Sharp, C., Stanford, M. S., & Tharp, A. T. (2013). New tricks for an old measure: The development of the Barratt Impulsiveness Scale–Brief (BIS-Brief). *Psychological Assessment*, 25(1), 216-226. doi:10.1037/a0030550

Read each statement and mark one response for each question. Do not spend too much time on any statement. Answer quickly and honestly.

	Variable Name	Rarely/ Never (1)	Occasionally (2)	Often (3)	Almost Always (4)
1. I act on the spur of the moment.	Imp_spur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I do things without thinking.	Imp_dowothk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I say things without thinking.	Imp_saywothk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I plan tasks carefully.	Imp_plantask	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I am a careful thinker.	Imp_carethk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I concentrate easily.	Imp_conceasy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I don't pay attention.	Imp_noatt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am self-controlled	Imp_selfcont	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BIS-Brief Scoring

*Reverse scored items

4. I plan tasks carefully. (Imp_plantask_RevSc)

5. I am a careful thinker. (Imp_carethk_RevSc)

6. I concentrate easily. (Imp_conceasy_RevSc)
 8. I am self-controlled (Imp_selfcont_RevSc)

Global score: Bis-B_total = Imp_spur+ Imp_saywothk+ Imp_dowothk+Imp_plantask_RevSc+ Imp_carethk_RevSc+Imp_conceasy_RevSc+ Imp_noatt+Imp_selfcont_RevSc

Grit-S Scale

This is the short version (8 items) of the longer 12-item instrument.

Source:

Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (GRIT–S). *Journal of personality assessment*, 91(2), 166-174.

Here are a number of statements that may or may not apply to you. There are no right or wrong answers, so just answer honestly, considering how you compare to most people.

	Variable Name	Not at all like me (1)	Not much like me (2)	Somewhat like me (3)	Mostly like me (4)	Very much like me (5)
1. New ideas and projects sometimes distract me from previous ones	grit_new	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Setbacks don't discourage me.	grit_setbacks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I have been obsessed with a certain idea or project for a short time but later lost interest.	grit_lostint	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I am a hard worker.	grit_hardwkr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I often set a goal but later choose to pursue a different one.	grit_goaldiff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I have difficulty maintaining my focus on projects that take more than a few months to complete.	grit_difffocus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I finish whatever I begin.	grit_finish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am diligent.	grit_diligent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Grit-S Scale Scoring

*Reverse scored items

1. New ideas and projects sometimes distract me from previous ones. (grit_new_revsc)
 3. I have been obsessed with a certain idea or project for a short time but later lost interest. (grit_lostint_revsc)
 5. I often set a goal but later choose to pursue a different one. (grit_goaldiff_revsc)
 6. I have difficulty maintaining my focus on projects that take more than a few months to complete. (grit_difffocus_revsc)

Global Score: grit_s_total = sum(grit_new_revsc, grit_setbacks, grit_lostint_revsc, grit_hardwkr, grit_goaldiff_revsc, grit_difffocus_revsc, grit_finish, grit_diligent)

Science Self Efficacy (SSSE)

The Sources of Science Self-Efficacy Scale was developed by Usher and Parajes (2009) for the domain of math, which can be adapted for science as defined by Marriott et al., 2019.

Sources:

Usher, E.L. and Pajares, F. (2009). Sources of Self-Efficacy in Mathematics: A Validation Study. *Contemporary Educational Psychology*, 34(1), 89–101., doi:10.1016/j.cedpsych.2008.09.002.

Marriott, L.K., Coppola, L., Mitchell, S.H., Bouwma-Gearhart, J., Zhen, Z. Shifrer, D., Feryn, A.B., and J. Shannon (2019). Opposing effects of impulsivity and mindset on science self-efficacy and STEM interest in adolescents. *PLOS One*. 14(8): e0201939. <https://doi.org/10.1371/journal.pone.0201939>

These questions refer to your attitudes about science. Let us know how true or false they are for you.							
	Variable Name	Definitely False (0)	Mostly False (1)	A little bit False (2)	A little bit True (3)	Mostly True (4)	Definitely True (5)
1. I make excellent grades on science tests	SSE_scitest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have always been successful with science	SSE_success	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Even when I study very hard, I do poorly in science	SSE_hardstudy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I got good grades in science on my last report card	SSE_scigrades	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I do well on science assignments	SSE_sciassignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I do well on even the most difficult science assignments	SSE_difficultassignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Seeing adults do well in science pushes me to do better	SSE_rolemodels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. When I see how my science teacher solves a problem, I can picture myself solving the problem in the same way	SSE_observelearning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Seeing kids do better than me in science pushes me to do better	SSE_peerpush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. When I see how another student solves a science problem, I can see myself solving the problem in the same way	SSE_mirrorpeer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I imagine myself working through challenging science problems successfully	SSE_scichallprobs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I compete with myself in science	SSE_selfcompetition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. My science teachers have told that I am good at learning science	SSE_teachreassurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. People have told me that I have a talent for science	SSE_talentreassurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Adults in my family have told me what a good science student I am	SSE_famreassurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I have been praised for my ability in science	SSE_scipraise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Other students have told me that I'm good at learning science	SSE_peergoodlearn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. My classmates like to work with me in science because they think I'm good at it	SSE_peersworkgood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Just being in science class makes feel stressed and nervous	SSE_classstress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Doing science work takes all of my energy	SSE_exhausting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I start to feel stressed-out as soon as I begin my science work	SSE_stresshw	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. My mind goes blank and I am unable to think	SSE_blankminded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

clearly when doing science work							
23. I get depressed when I think about learning science	SSE_depressing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. My whole body becomes tense when I have to do science	SSE_bodytense	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Science Self Efficacy (SSE) Scoring

* Reverse scored items

- 3. Even when I study very hard, I do poorly in science (ME) (SSE_hardstudy_RevSc)
- 19. Just being in science class makes feel stressed and nervous (PH) (SSE_classstress_RevSc)
- 20. Doing science work takes all of my energy (PH) (SSE_exhausting_RevSc)
- 21. I start to feel stressed-out as soon as I begin my science work (PH) (SSE_stresshw_RevSc)
- 22. My mind goes blank and I am unable to think clearly when doing science work (PH) (SSE_blankminded_RevSc)
- 23. I get depressed when I think about learning science (PH) (SSE_depressing_RevSc)
- 24. My whole body becomes tense when I have to do science (PH) (SSE_bodytense_RevSc)

RECODE SSE_hardstudy SSE_classstress SSE_exhausting SSE_stresshw SSE_blankminded SSE_depressing SSE_bodytense (1=4) (2=3) (3=2) (4=1) INTO SSE_hardstudy_RevSc SSE_classstress_RevSc SSE_exhausting_RevSc SSE_stresshw_RevSc SSE_blankminded_RevSc SSE_depressing_RevSc SSE_bodytense_RevSc.

ME: Mastery Experience; (Q1+Q2+Q3*+Q4+Q5+Q6)

- 1. I make excellent grades on science tests (ME) (SSE_scitest)
- 2. I have always been successful with science (ME) (SSE_success)
- 3. Even when I study very hard, I do poorly in science (ME) (SSE_hardstudy_RevSc)
- 4. I got good grades in science on my last report card (ME) (SSE_scigrades)
- 5. I do well on science assignments (ME) (SSE_sciassignments)
- 6. I do well on even the most difficult science assignments (ME) (SSE_difficultassign)

SSE_ME=SSE_scitest+SSE_success+SSE_hardstudy_RevSc+SSE_scigrades+SSE_sciassignment+SSE_difficultassign

VE: Vicarious Experience; (Q7-Q12)

- 7. Seeing adults do well in science pushes me to do better (VA) (SSE_rolemodels)
- 8. When I see how my science teacher solves a problem, I can picture myself solving the problem in the same way (VA) (SSE_observelearning)
- 9. Seeing kids do better than me in science pushes me to do better (VP) (SSE_peerpush)
- 10. When I see how another student solves a science problem, I can see myself solving the problem in the same way (VP) (SSE_mirrorpeer)
- 11. I imagine myself working through challenging science problems successfully (VS) (SSE_scichallprobs)
- 12. I compete with myself in science (VS) (SSE_selfcompetition)

SSE_VE= SSE_rolemodels+SSE_observelearning+SSE_peerpush+SSE_mirrorpeer+SSE_scichallprobs+SSE_selfcompetition

P: Social Persuasions; (Q13+Q14+Q15+Q16+Q17+Q18)

13. My science teachers have told that I am good at learning math (P) (SSE_teachreassure)
14. People have told me that I have a talent for science (P) (SSE_talentreassure)
15. Adults in my family have told me what a good science student I am (P) (SSE_famreassure)
16. I have been praised for my ability in science (P) (SSE_scipraise)
17. Other students have told me that I'm good at learning science (P) (SSE_peergoodlearn)
18. My classmates like to work with me in science because they think I'm good at it (P) (SSE_peersworkgood)

SSE_P=SSE_teachreassure+SSE_talentreassure+SSE_famreassure+SSE_scipraise+SSE_peergoodlearn+SSE_peersworkgood

PH: Physiological State; (Q19*+Q20*+Q21*+Q22*+Q23*+Q24*)

19. Just being in science class makes feel stressed and nervous (PH) (SSE_classstress_RevSc)
20. Doing science work takes all of my energy (PH) (SSE_exhausting_RevSc)
21. I start to feel stressed-out as soon as I begin my science work (PH) (SSE_stresshw_RevSc)
22. My mind goes blank and I am unable to think clearly when doing science work (PH) (SSE_blankminded_RevSc)
23. I get depressed when I think about learning science (PH) (SSE_depressing_RevSc)
24. My whole body becomes tense when I have to do science (PH) (SSE_bodytense_RevSc)

SSE_PH=SSE_classstress_RevSc+SSE_exhausting_RevSc+SSE_stresshw_RevSc+SSE_blankminded_RevSc+SSE_depressing_RevSc+SSE_bodytense_RevSc

Global Score: SSE_Total= SSE_ME+SSE_VA+SSE_VP+SSE_VS+SSE_P+SSE_PH

Mindset-short

Sources:

Paunesku D, Walton GM, Romero C, Smith EN, Yeager DS, Dweck CS. Mind-Set Interventions Are a Scalable Treatment for Academic Underachievement (2015). *Psychological Science*, 26(6), 784-793. <https://doi.org/10.1177/0956797615571017>

Growth mindset for intelligence. (n.d.). Retrieved from

<https://nationalmentoringresourcecenter.org/index.php/toolkit/item/268-growth-mindset-for-intelligence.html>

Read each sentence below and mark the choice that shows how much you agree with it. There are no right or wrong answers.							
	Variable Name	Strongly Disagree (1)	Disagree (2)	Somewhat disagree (3)	Somewhat agree (4)	Agree (5)	Strongly Agree (6)
1. You can learn new things, but you can't really change your basic intelligence.	Mind_basic1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Your intelligence is something about you that you can't change very much.	Mind_nochange1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. You have a certain amount of intelligence and you really can't do much to change it.	Mind_fixed1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. In general, being a scientist is an important part of my self-image.	Mind_selfimage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Science is too hard when it involves math	Mind_math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mindset-short Scoring

*Reverse scored items

1. You can learn new things, but you can't really change your basic intelligence. (ES)
(Mind_basic1_RevSc)
2. Your intelligence is something about you that you can't change very much. (ES)
(Mind_nochange1_RevSc)
3. You have a certain amount of intelligence and you really can't do much to change it. (ES)
(Mind_fixed1_RevSc)

RECODE Mind_basic1 Mind_nochange1 Mind_fixed1 (1=6) (2=5) (3=4) (4=3) (5=2) (6=1) INTO
Mind_basic1_RevSc Mind_nochange1_RevSc Mind_fixed1_RevSc.

Mindset short= Mind_basic1_RevSc + Mind_nochange1_RevSc + Mind_fixed1_RevSc

IS: Incremental Self; (Q4)

4. In general, being a scientist is an important part of my self-image. (Mind_selfimage)

Scoring: $MS_IS = \text{Mind_selfimage}$

ES: Entity Self; (Q1*+Q2*+Q3+Q5)

1. You can learn new things, but you can't really change your basic intelligence. (ES)
(Mind_basicl_RevSc)

2. Your intelligence is something about you that you can't change very much. (ES)
(Mind_nochangeI_RevSc)

3. You have a certain amount of intelligence and you really can't do much to change it.
(ES) (Mind_fixedI_RevSc)

4. Science is too hard when it involves math. (ES) (Mind_math)

Scoring: $MS_ES = \text{Mind_basicl_RevSc} + \text{Mind_nochangeI_RevSc} + \text{Mind_fixedI_RevSc} + \text{Mind_math}$

Global Score: $MS_Total = MS_IS + MS_ES$

Science Identity

Source:

Robnett, R. D., Chemers, M. M., & Zurbruggen, E. L. (2015). Longitudinal associations among undergraduates' research experience, self-efficacy, and identity. *Journal of Research in Science Teaching*, 52(6), 847-867

The following questions ask how you think about yourself and your personal identity. We want to understand how much you think that being a scientist is part of who you are. Tell us how much you agree or disagree with the statements below.

	Variable Name	Disagree strongly (1)	Disagree somewhat (2)	Neutral (3)	Agree somewhat (4)	Agree strongly (5)
1. In general, being a scientist is an important part of my self-image.	ident_image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have a strong sense of belonging to the community of scientists.	ident_belongcomm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Being a scientist is an important reflection of who I am.	ident_reflect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I have come to think of myself as a "scientist."	ident_think	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel like I belong in the field of science.	ident_belongfield	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I am a scientist.	ident_scientist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Science Identity Scoring

Global Score: Sum of ident_image, ident_belongcomm, ident_reflect, ident_think, ident_belongfield, ident_scientist

Motivation (SDT-Science)

The Self-Determination Theory scale (SDT at work) was adapted by L.K. Marriott, A. Charbonneau, and J. Bouwma-Gearhardt for the domain of science based on work from Deci et al., 2001.

Sources:

Deci, E.L., Ryan, R.M., Gagné, M., Leone, D.R., Usunov, J., & Kornazheva, B.P. (2001). Need Satisfaction, Motivation, and Well-Being in the Work Organizations of a Former Eastern Bloc Country: A Cross-Cultural Study of Self-Determination. *Personality and Social Psychology Bulletin*, 27(8), 930-942. <https://doi.org/10.1177/0146167201278002>

These questions refer to the way you feel when you are doing science. Please indicate how true each of the following statement is for you given your experiences.

When I Am Doing Science...	Variable Name	1 Not true at all	2	3	4 Somewhat true	5	6	7 Very true
1. I feel like I can make a lot of inputs to deciding how my science work gets done.	SDT_inputs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I really like the people in science with me	SDT_likepeople	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I do not feel very competent (capable) when I am doing science	SDT_competent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. People in science tell me I am good at what I do.	SDT_goodat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I feel pressure in science	SDT_pressure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I get along with people in science	SDT_alongpeople	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I pretty much keep to myself when I am doing science	SDT_keepsself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I am free to express my ideas and opinions in science.	SDT_freeexpress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I consider the people in science to be my friends.	SDT_scifriends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I have been able to learn interesting new skills in science	SDT_newskills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. When I am doing science, I have to do what I am told.	SDT_dowhattold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Most days I feel a sense of	SDT_accomplishment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

accomplishment from doing science.								
13. My feelings are taken into consideration in science	SDT_feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. In science I do not get much of a chance to show how capable I am.	SDT_capability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. People in science care about me.	SDT_careme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. There are not many people in science that I am close to.	SDT_closeness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I feel like I can pretty much be myself in science	SDT_beself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The people in science do not seem to like me much.	SDT_unlike	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. When I am doing science I often do not feel very capable.	SDT_incapable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. There is not much opportunity for me to decide for myself how to go about my science work.	SDT_nochoice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. People in science are pretty friendly towards me.	SDT_friendly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Motivation (SDT-Science) Scoring

*Reverse scored items

- 3. I do not feel very competent (capable) when I am doing science (C) (SDT_competent_RevSc)
- 5. I feel pressure in science (C) (SDT_pressure_RevSc)
- 7. I pretty much keep to myself when I am doing science (R) (SDT_keepself_RevSc)
- 14. In science I do not get much of a chance to show how capable I am. (C) (SDT_capability_RevSc)
- 16. There are not many people in science that I am close to. (R) (SDT_closeness_RevSc)
- 18. The people in science do not seem to like me much. (R) (SDT_unlike_RevSc)
- 19. When I am doing science I often do not feel very capable. (C) (SDT_incapable_RevSc)

RECODE SDT_competent SDT_pressure SDT_keepself SDT_capability SDT_closeness SDT_unlike SDT_incapable (1=4) (2=3) (3=2) (4=1) INTO SDT_competent_RevSc SDT_pressure_RevSc SDT_keepself_RevSc SDT_capability_RevSc SDT_closeness_RevSc SDT_unlike_RevSc SDT_incapable_RevSc.

A: Autonomy; (Q1+Q5*+Q8+Q11+Q13+Q17+Q20)

- 1. I feel like I can make a lot of inputs to deciding how my science work gets done. (A) (SDT_inputs)

5. I feel pressure in science (C) (SDT_pressure_RevSc)
 8. I am free to express my ideas and opinions in science. (A) (SDT_freeexpress)
 11. When I am doing science, I have to do what I am told. (A) (SDT_dowhattold)
 13. My feelings are taken into consideration in science (A) (SDT_feelings)
 17. I feel like I can pretty much be myself in science (A) (SDT_beself)
 20. There is not much opportunity for me to decide for myself how to go about my science work. (A) (SDT_nochoice)

$SDT_A = SDT_inputs + SDT_pressure_RevSc + SDT_freeexpress + SDT_dowhattold + SDT_feelings + SDT_beself + SDT_nochoice$

C: Competence; (Q3*+Q4+Q10+Q12+Q14*+Q19)

3. I do not feel very competent (capable) when I am doing science (C) (SDT_competent_RevSc)
 4. People in science tell me I am good at what I do. (C) (SDT_goodat)
 10. I have been able to learn interesting new skills in science (C) (SDT_newskills)
 12. Most days I feel a sense of accomplishment from doing science. (C) (SDT_accomplishment)
 14. In science I do not get much of a chance to show how capable I am. (C) (SDT_capability_RevSc)
 19. When I am doing science often do not feel very capable. (C) (SDT_incapable_RevSc)

$SDT_C = SDT_competent_RevSc + SDT_goodat + SDT_newskills + SDT_accomplishment + SDT_capability_RevSc + SDT_incapable_RevSc$

R: Relatedness; (Q2+Q6+Q7*+Q9+Q15+Q16+Q18+Q21)

2. I really like the people in science with me (R) (SDT_likepeople)
 6. I get along with people in science (R) (SDT_alongpepole)
 7. I pretty much keep to myself when I am doing science (R) (SDT_keepself_RevSc)
 9. I consider the people in science to be my friends. (R) (SDT_scifriends)
 15. People in science care about me. (R) (SDT_careme)
 16. There are not many people in science that I am close to. (R) (SDT_closeness_RevSc)
 18. The people in science do not seem to like me much. (R) (SDT_unlike_RevSc)
 21. People in science are pretty friendly towards me. (R) (SDT_friendly)

$SDT_R = SDT_likepeople + SDT_alongpepole + SDT_keepself_RevSc + SDT_scifriends + SDT_careme + SDT_closeness_RevSc + SDT_unlike_RevSc + SDT_friendly$

Global Score: $SDT_Total = SDT_A + SDT_C + SDT_R$

Attitudes about biomedical research

Source: Cameron, W.E. (2005). Teacher Institute of the Experience of Science. National Center for Research Resources, R25RR020443. Accessed January 16, 2022 from <https://nihsepa.org/project/teacher-institute-for-the-experience-of-science/>

“Biomedical research is the work scientists do to understand the human body and how it works, how to help keep us healthy, and how to treat people who have medical problems.”
Please fill in one response for each item.

	Variable Name	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I have a good understanding of the process of testing new cancer treatments.	Att_undtesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have a good understanding of the reasons for involving human subjects in cancer research.	Att_undreasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I have a good understanding of the rules regarding the participation of human subjects in cancer research	Att_undrules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The media (websites, TV, newspaper) is a reliable source of information about biomedical research.	Att_media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. School teachers are a reliable source of information about biomedical research.	Att_teachers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Scientists are a reliable source of information about biomedical research.	Att_scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Advances in biomedical research depend on animal studies.	Att_advhuman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Advances in biomedical research depend on human studies.	Att_advanimal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Attitudes about biomedical research scoring

Global Score: Sum of att_undtesting, att_undreasons, att_undrules, att_media, att_teachers, att_scientists, att_advhuman, att_advanimal

STEM Interest

Sources:

Lent, R. W., Brown, S. D., Schmidt, J., Brenner, B., Lyons, H., & Treistman, D. (2003).

Relation of contextual supports and barriers to choice behavior in engineering majors: Test of alternative social cognitive models. *Journal of counseling psychology*, 50(4), 458. <https://doi.org/10.1037/0022-0167.50.4.458>Byars-Winston, A., Estrada, Y., Howard, C., Davis, D. & Zalapa, J.(2010). Influence of social cognitive and ethnic variables on academic goals of underrepresented students in science and engineering: a multiple-groups analysis. *J Couns Psychol* 57, 205-218, doi:10.1037/a0018608

Some items were adapted by Knight Scholars Program faculty for use with this project.

Please indicate your degree of interest in studying each of the following topics. Use the scale below to show how interested you are in each topic.

	Variable Name	Very Low Interest (1)	Low interest (2)	Neutral (3)	High interest (4)	Very High Interest (5)
1. Science	Int_sci	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Statistics	Int_stat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Chemistry	Int_chem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Physics	Int_phys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Math	Int_math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Computer science	Int_compsci	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Engineering	Int_eng	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Biomedical research*	Int_biomedres	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Cancer research*	Int_cancerres	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Items #8 and 9 added to scale by LKM

Now, please indicate your degree of interest in doing each of the following activities

	Variable Name	Very Low Interest (1)	Low interest (2)	Neutral (3)	High interest (4)	Very High Interest (5)
10. Solving practical math or science problems	Int_solveprac	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Reading articles or books about scientific issues	Int_readsci	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Solving computer software problems	Int_solvecomput	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Working on a project involving lots of math or science	Int_projlots	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Solving complicated math or science problems	Int_solvecomplic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Learning new computer programs	Int_newcomput	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Working on a project involving scientific concepts	Int_projcon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Working in biomedical research IN a laboratory*	Int_inlab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Working in biomedical research OUTSIDE of a laboratory**	Int_outlab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Items #17 and 18 added to scale by LKM. ^Outside of a laboratory is defined for students: “(such as clinical nurses, clinical trial coordinators, grant managers, computational biologists, technology transfer officials, genetic counselors, science teachers, statisticians, exercise scientists, radiation therapists, science policy analysts, regulatory officials, veterinarians, clinical dietitians, computer programmers working with big data and personalized medicine, public health workers, etc.)”

How likely would you say you are to:	Variable Name	Very unlikely (1)	Somewhat unlikely (2)	Neutral (3)	Somewhat likely (4)	Very likely (5)
Pursue a college degree?	Likely_college	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pursue a field of study in science, technology, engineering or math?	Likely_stem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work in a science lab	Likely_lab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Want to go to graduate school?	Likely_gradsch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Research Self-Efficacy (URSSA)

Source:

Weston, T. J., & Laursen, S. L. (2015). The undergraduate research student self-assessment (URSSA): Validation for use in program evaluation. *CBE—Life Sciences Education*, 14(3), ar33. <https://doi.org/10.1187/cbe.14-11-0206>

Undergraduate Research Student Self-Assessment (URSSA):

<https://spot.colorado.edu/~laursen/accessURSSA.html>

https://www.colorado.edu/eer/sites/default/files/attached-files/urssa_master_reviewcopy.pdf

Intervention group prompt: How much did you GAIN in the following areas as a result of your OHSU summer research experience?						
Comparison group prompt: How much did you GAIN in the following areas this summer?						
	Variable Name	No Gains (0)	A Little Gain (1)	Moderate Gain (2)	Good Gain (3)	Great Gain (4)
Confidence in my ability to contribute to science.	Urssa_contrib	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comfort in discussing scientific concepts with others	Urssa_discuss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comfort in working collaboratively with others.	Urssa_collab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confidence in my ability to do well in future science courses.	Urssa_dowell	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understanding what everyday research work is like.	Urssa_everyday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Free Response

Intervention Group Free Response

How did your summer research experience influence your thinking about future career and graduate school plans? Please explain. (Free response)

Comparison Group Questions

Has your summer experience included any science or research?

- Yes
- No

Please describe what you have been doing this summer. (Free response)

How has your summer experience influenced your thinking about your future career and graduate school plans? Please explain. (Free response)

Participant Communication

Introduction Emails

KSP Introduction Cohort Pre-survey

Subject: Please Complete the Knight Scholars Program PRE Survey

Hello [first_name],

Congratulations and welcome to the Knight Scholars Introduction Program! Your responsibilities as a Knight Scholar include completing a pre- and post-evaluation survey. The pre-program survey is now available at the link below.

Please complete this survey by **Sunday at 5 pm**. The survey will take approximately 10-20 minutes. There will be computers available in the dorm to take the survey, or you may complete it on your own time beforehand.

If you have any trouble opening or understanding the survey, please let a Knight Scholars Program contact know.

Thank you,

Knight Scholars Program

You may open the survey in your web browser by clicking the link below:

[survey-link]

If the link above does not work, try copying the link below into your web browser:

[survey-url]

This link is unique to you and should not be forwarded to others.

KSP Introduction Cohort Post-survey

Subject: Please Complete the Knight Scholars Program POST Survey

Hello [first_name],

Thank you for participating in the Knight Scholars Introduction Program! Your responsibilities as a Knight Scholar include completing a post-evaluation survey, now available at the link below.

Please complete this survey by **Saturday at noon**. The survey will take approximately 5-10 minutes. You may complete the survey during the time provided on Friday or on your own time before you leave.

If you have any trouble opening or understanding the survey, please let a Knight Scholars Program contact know.

Thank you,

Knight Scholars Program

You may open the survey in your web browser by clicking the link below:
[survey-link]

If the link above does not work, try copying the link below into your web browser:
[survey-url]

This link is unique to you and should not be forwarded to others.

KSP Introduction Comparison Cohort Survey

Subject: Complete this survey for a \$15 eGift Card to _____

Dear [first_name],

Thank you for your interest in the Knight Scholars Program last spring. We are reaching out to all students who have indicated interest in the program because we are trying to understand how students feel about science and research.

Please help us by taking the Science and Research Survey at the link below. The survey will take approximately 10-20 minutes.

If you complete the survey by **August 30**, you will receive a **\$15 eGift Card**.

This survey is sent to all students who applied to the Knight Scholars Program. We hope that you will apply to the Knight Scholars Program next year. Participation in this survey will not impact your chances of acceptance next year.

If you have any questions about the survey, please contact knightscholars@ohsu.edu.

Thank you,

Knight Scholars Program

You may open the survey in your web browser by clicking the link below:

[survey-link]

If the link above does not work, try copying the link below into your web browser:

[survey-url]

This link is unique to you and should not be forwarded to others.

Immersion Emails

KSP Immersion Cohort Pre-survey

Subject: Please Complete the Knight Scholars Program PRE Survey

Hello [first_name],

Congratulations and welcome to the Knight Scholars Introduction Program! Your responsibilities as a Knight Scholar include completing a pre- and post-evaluation survey. The pre-program survey is now available at the link below.

Please complete this survey by **Sunday 6/20 at 5 pm**. The survey will take approximately 10-20 minutes. There will be computers available in the dorm to take the survey, or you may complete it on your own time beforehand.

If you have any trouble opening or understanding the survey, please let a Knight Scholars Program contact know.

Thank you,

Knight Scholars Program

You may open the survey in your web browser by clicking the link below:

[survey-link]

If the link above does not work, try copying the link below into your web browser:

[survey-url]

This link is unique to you and should not be forwarded to others.

KSP Immersion Cohort Post-survey

Subject: Please Complete the Knight Scholars Program POST Survey

Hello [first_name],

Thank you for participating in the Knight Scholars Introduction Program! Your responsibilities as a Knight Scholar include completing a post-evaluation survey, now available at the link below.

Please complete this survey by **Saturday at noon**. The survey will take approximately 5-10 minutes. You may complete the survey during the time provided on Friday or on your own time before you leave.

If you have any trouble opening or understanding the survey, please let a Knight Scholars Program contact know.

Thank you,

Knight Scholars Program

You may open the survey in your web browser by clicking the link below:
[survey-link]

If the link above does not work, try copying the link below into your web browser:
[survey-url]

This link is unique to you and should not be forwarded to others.

KSP Introduction Comparison Cohort Survey

Subject: Complete this survey for a \$15 eGift Card

Dear [first_name],

Thank you for your interest in the Knight Scholars Program last spring. We are reaching out to all students who have indicated interest in the program because we are trying to understand how students feel about science and research.

Please help us by taking the Science and Research Survey at the link below. The survey will take approximately 10-20 minutes.

If you complete the survey by **August 30**, you will receive a **\$15 eGift Card**.

This survey is sent to all students who applied to the Knight Scholars Program. We hope that you will apply to the Knight Scholars Program next year. Participation in this survey will not impact your chances of acceptance next year.

If you have any questions about the survey, please contact knightscholars@ohsu.edu.

Thank you,

Knight Scholars Program

You may open the survey in your web browser by clicking the link below:
[survey-link]

If the link above does not work, try copying the link below into your web browser:
[survey-url]

This link is unique to you and should not be forwarded to others.

Scientist Evaluation of Immersion Lab Rotations

Thank you for hosting scholars in your lab! We're trying to learn how to improve the experience for the future, particularly since the shadowing was virtual this summer. We are expecting it to be in-person next summer. All responses are anonymous.

For hosting scholars in your lab...

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
1) I felt prepared to host scholars in the lab	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) The Knight Scholars program helped me understand what to talk about with scholars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The shadowing duration (2 half days) was reasonable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) The amount of time needed to prepare was too much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) The virtual setting worked fine for describing our work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6) I would host scholars again in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7) I would recommend this experience to other labs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What can we do to improve our preparation of labs for what to expect? (or if something worked well for you, please let us know so we can continue it)

How can we improve the actual shadowing experience?

What would be the ideal number of scholars placed in your lab?

- For a virtual lab shadow (like this summer)? ____
- For a in-person lab shadow (like next summer)? ____

Was having a peer mentor attend your lab rotation helpful? Should we keep that again in the future?

- Definitely keep peer mentors in lab rotations (1)
- Likely keep (2)
- No preference (3)
- Likely don't keep (4)
- Definitely don't keep peer mentors attending lab rotations with scholars (5)

What else do you want us to know?