Applications of Motivational Interviewing as a Core Component of Education-Based Intervention Development and Fidelity

NOVEMBER 8, 2019



Introduction

Motivational interviewing- The basics (Blake Skidmore & Andy Frey)

Fidelity of MI in School-based intervention and research (Jason Small & Blake Skidmore)

A motivational interviewing intervention for youth in accelerated high school curricula (Shannon Suldo & Lindsey O'Brennan)

Discussion (Julie Owens)

Significance

MI use in schools increasing

Consultation and coaching

• Blom-Hoffman & Rose, 2007; Frey et al., 2013; Lee, Frey, Herman, & Reinke, 2014

Developing intervention protocols

- Freira et al., 2018; Frey et al., 2015; Iachini, Rogelberg, Terry, & Lutz, 2016; Reinke, Lewis-Palmer, & Merrell, 2008; Reinke, Herman, & Sprick, 2011; Strait et al., 2012; Terry, Smith, Strait, & McQuillin, 2013; Walker, et al., 2014.
- Supplementing existing interventions to increase engagement and improve implementation fidelity
 - Gueldner & Merrell, 2011; Hebard & Watson, 2017; Herman et al., 2012; Lee, Frey, Herman, & Reinke, 2014; Reinke et al., 2012.
- Training and measurement techniques must be contextualized for schoolbased applications

In other words...

MI is a strategic way of having a conversation about change. Miller and Rollnick said in some ways the name "Motivational Conversation" would be more fitting.

It can occur in any context, but it is always a collaborative process.

- It is a matter of guiding and listening, rather than directing and instructing.
- It takes us out of the expert role, and meets them where they are.

How we talk about change influences our behavior!!!

The MI Spirit (relational component)

Partnership Acceptance Evocation Compassion

MI Processes

Engaging

Focusing

Evoking

Planning

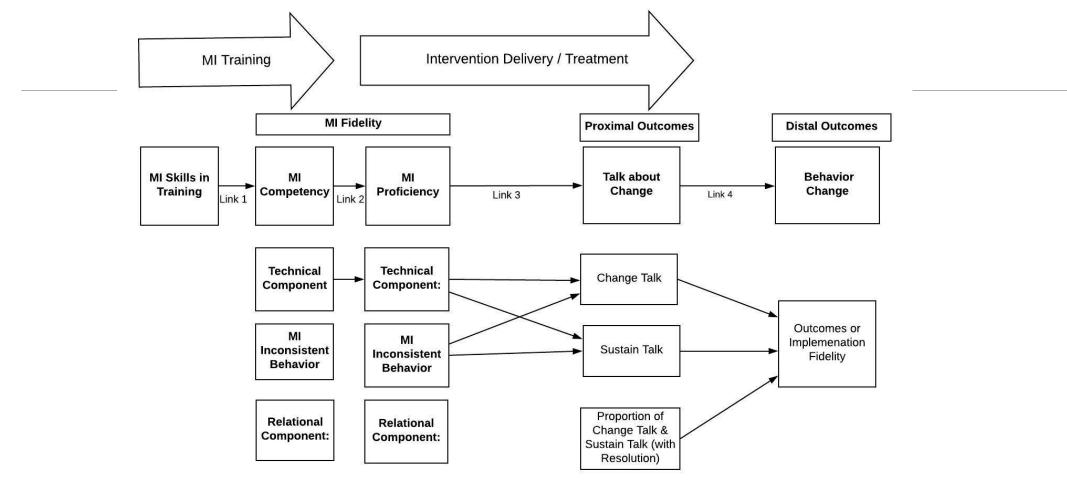


Engaging through Client-Centered Counseling Skills (technical skills)

OARS:

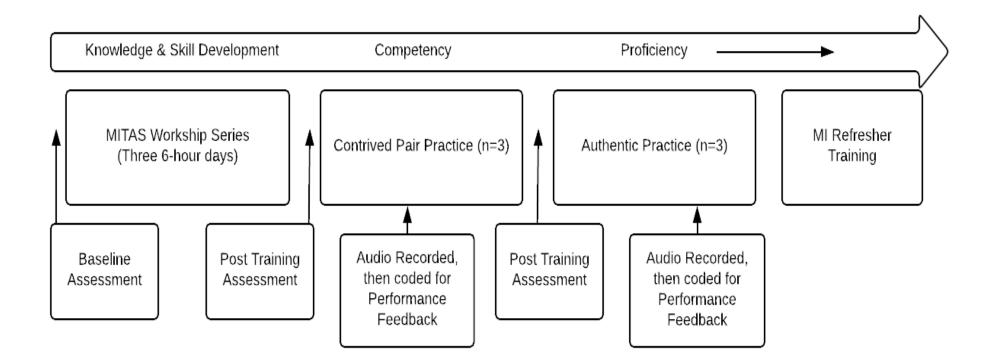
- Open-ended questions
- Affirmations
- Reflections
- Summaries

Mechanisms of MI



Line indicates some empirical evidence to support theory No Line indicates theoretical relationship only

Motivational Interviewing Training and Assessment System (MITAS)



Fidelity of Motivational Interviewing in School-based Intervention and Research

Jason Small, Oregon Research Institute Blake Skidmore, University of Louisville Andy Frey, University of Louisville Jon Lee, Northern Arizona University



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Intervention Fidelity

- The extent to which practitioners deliver evidence-based programs and practices as intended (Sanetti & Kratochwill, 2009)
- We know that interventions need to be delivered "accurately, comprehensively, and consistently" to yield positive outcomes (Forman et al., 2013)



- In research settings, fidelity is often not examined at all or only adherence is considered
- In real-world settings, practitioners are even less likely to monitor fidelity (Cook, Lyon, Locke, Waltz, & Powell, 2019)
- Distinguish between adaptation and drift (Sanetti & Kratochwill, 2009)

MI fidelity in school-based settings

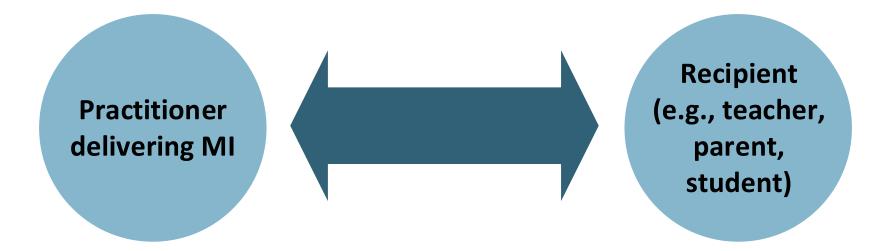
- Examination and reporting of MI fidelity has been inconsistent;
- Reviewed 37 MI studies published between 2003 and 2019:
 - 57% did not report any information on the extent to which practitioners delivered MI with fidelity
 - 19% collected data using (a) self-reported adherence measures, (b) a measure without evidence of reliability or validity, or (c) or made only vague reference to monitoring fidelity
 - Only 24% reported examining MI fidelity using a measure with evidence of reliability and validity



Studies examining MI fidelity (n = 9)

- Targeted substance use, obesity, physical activity, or MI training models
- Variation in the collection and reporting of MI quality:
 - Used either the MITI (n = 8) or MISC (n = 1) to assess MI quality
 - Only 4 studies reported fidelity data for all MITI and MISC summary scores
 - Only three studies reported ICCs for inter-rater reliability
 - One consistent finding: Most studies (n = 8) reported and discussed fidelity data at the group rather than the individual level
 - One study reported practitioner-level data and one acknowledged the presence of "variation across interventionists" (Barnett et al, 2012)

Sources of variability in MI fidelity



Dunn et al. (2016); Hallgren et al. (2018); Imel, Baer, Martino, Ball, & Carroll (2011)

Variability in MI fidelity

- Imel et al. (2011):
 - MI skills were not consistent across clients served
 - Low client motivation at the outset of a session resulted in higher MI fidelity
- Dunn et al. (2016):
 - Higher variability within than between therapists
 - Stability in MI fidelity over time with scores neither significantly improving or worsening over time
- Hallgren et al. (2018):
 - Within-provider variability (57-94%); between-provider variability (3%-26%)

The homeBase Intervention

- homeBase is a process for increasing parent's intrinsic motivation to adopt and implement evidence-based practices with integrity in the home setting.
- Partnership between parent and coach
- Approximately 3 5 visits with the family:
 - (1) Engagement
 - (2) Assess current parenting practices
 - (3) Performance feedback
 - (4) Consultation, education, and support
 - (5) Closure



Participating Families

- 120 families
- 96 families (80%) participated in at least one MI session
- Mean age of 37 years (SD = 10.4 years)
- Predominantly female (87%)
- Majority reported race as either African American (52%) or Caucasian (43%)
- 10% reported hold a Bachelor's degree or higher
- 68% were currently employed
- 34% living below the poverty level based on reported income and h/h size

Participating Coaches

- 17 coaches
- •Mean age of 35 years (SD = 13.5 years)
- Primarily female (82%)
- 71% reported race as Caucasian; 29% reported race as African American
- 59% had completed a Master's degree or higher
- Varied exposure to MI prior to training:
 - 24% limited exposure
 - 29% had read about MI
 - 47% had previously attended an MI training



Motivational Interviewing Treatment Integrity Code (MITI; Moyers et al, 2015)

- Coding system to examine the verbal behavior of a practitioner, counselor, or coach delivering MI
- Enables examination of the four MI processes (engaging, focusing, evoking, and planning)
- <u>Four global scores</u>: Cultivating change talk (CCT), softening sustain talk (SST), partnership, and empathy
- <u>Ten behavior counts</u>: Giving information, Persuade, Persuade with permission, Question, Simple Reflection, Complex Reflection, Affirm, Seeking Collaboration, Emphasizing Autonomy, and Confront

MITI Scoring and Cutoffs

Summary score	Calculation	Competency cutoff	Proficiency cutoff
Relational skills	Mean of Partnership & Empathy	3.5	4.0
Technical skills	Mean of CCT & SST	3.0	4.0
Percent complex reflections (%CR)	CR / SR + CR	40%	50%
Ratio of reflections to questions (R:Q)	Ratio of total reflections (SR + CR) to the number of questions posed during the session	1:1	2:1

MITI Collection and Coding Procedures

- Coaches collected audio recordings of all home visiting sessions covering homeBase steps 1-3
- Independent coders randomly selected 20-minute samples from each tape
- Three coders completed MITI coding
- All coders completed a two-day training
- Participated in on-going group coding until reaching 90% reliability on behavior counts and 100% reliability on global scores
- Dr. Sibley coded 20% of recordings for inter-rater reliability checks



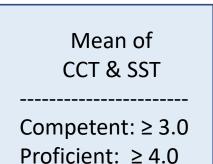
By Clark & Vizdos

MITI Inter-rater reliability

	ICCs for homeBase project (n = 37)	ICCs reported in Moyers et al. (2016)
Globals		
Cultivating change talk	.788	.862
Softening sustain talk	.481	.774
Partnership	.834	.786
Empathy	.816	.799
Summary measures		
Total MI Non-Adherent	.948	.741
Total MI Adherent	.766	.778
Reflection:Question	.671	.919
Technical	.818	.844
Relational	.880	.835
% Complex Reflection	.649	.534

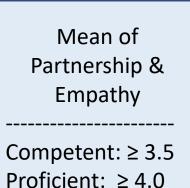
Technical Skills

- <u>Group-level</u>:
 - *M(SD)* = 3.8(0.5)
 - 97% of sessions above competency cutoffs
 - 63% of sessions **above proficiency** cutoffs
- I<u>ndividual-level</u>:
 - Technical means ranged from 3.5 to 4.3
 - CCT means ranged from 2.7 to 4.5
 - SST means ranged from 3.5 to 4.1
 - % of sessions (within coach) **above competency** cutoffs: 83% to 100%
 - % of sessions (within coach) above proficiency cutoffs: 15% to 100%



Relational Skills

- <u>Group-level</u>:
 - M(SD) = 3.8(0.8)
 - 80% of sessions above competency cutoffs
 - 62% of sessions **above proficiency** cutoffs
- Individual-level:
 - Relational means ranged from 2.7 to 4.6
 - Partnership means ranged from 2.5 to 4.6
 - Empathy means ranged from 2.7 to 4.7
 - % of sessions (within coach) above competency cutoffs: 17% to 100%
 - % of sessions (within coach) **above proficiency** cutoffs: 0% to 100%



Complex Reflections

• <u>Group-level</u>:

- *M(SD)* = 64.1%(24.5%)
- 87% of sessions above competency cutoffs
- 79% of sessions **above proficiency** cutoffs
- Individual-level:
 - %CR means ranged from 33% to 80%
 - % of sessions (within coach) **above competency** cutoffs: 33% to 100%
 - % of sessions (within coach) above proficiency cutoffs: 0% to 100%

CR / SR + CR
Competent: ≥ 40% Proficient: ≥ 50%

Reflections to questions

- <u>Group-level</u>:
 - M(SD) = 1.94(1.92)
 - 60% of sessions above competency cutoffs
 - 30% of sessions **above proficiency** cutoffs
- Individual-level:
 - Mean reflections to questions ranged from 0.1 to 2.7
 - % of sessions (within coach) **above competency** cutoffs: 0% to 100%
 - % of sessions (within coach) above proficiency cutoffs: 0% to 67%

SR + CR / Q				
Competent: ≥ 1.0 Proficient: ≥ 2.0				

Proportion of variance explained

	Proportion of variance explained				ICCs	
		ween- ession	Between- family	Between- coach	Level-2	Level-3
Technical global		.612	.044	.344	.388	.886
Relational global		.567	.109	.324	.433	.748
Percent complex reflections (%CR)		.834		.166	.166	
Reflections-to-questions ratio (R:Q)		.853	.147		.147	

Development, Applicability, and Acceptability of a Motivational Interviewing Intervention for Youth in Accelerated High School Curricula

SHANNON SULDO & LINDSEY O'BRENNAN

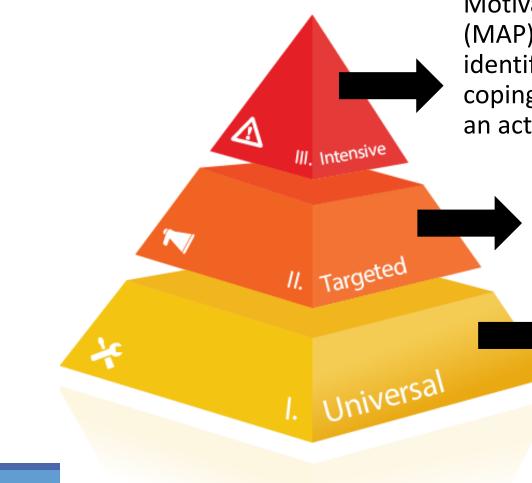


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Supports for High School Students in Accelerated Coursework



Motivation, Assessment, and Planning (MAP) meetings to help at-risk students identify strengths and weaknesses in coping and engagement skills and create an action plan to reach their goals

> Identify students at-risk based on self reported perceived stress and school satisfaction + grades from school records

> > Advancing Coping and Engagement (ACE) curriculum; Universal student, teacher, and parent modules addressing (1) effective coping, (2), school engagement, (3) eustress and problem-solving (strengths, values, and goals)

Motivation, Assessment, and Planning (MAP) Meetings

Goal of MAP meetings: Help students reflect and develop healthy coping and engagement skills that are linked to emotional and academic success in AP/IB courses.

Intended Population: Students who, at mid-year, have signs of academic or emotional risk in AP/IB and thus may benefit from brief, individualized support to address academic or emotional challenges

- Academic risk: GPA < 3.0, grades < C in AP/IB classes; scores < 3 (AP) or 4 (IB) on end-of-course exams
- *Emotional risk:* elevated stress, negative feelings about schooling experiences (low connectedness)

What the Intervention is NOT: Long-term therapy; Crisis intervention; Mental health support to address issues beyond the ACE Program targets. Students identified through the screening process are invited to take part in MAP

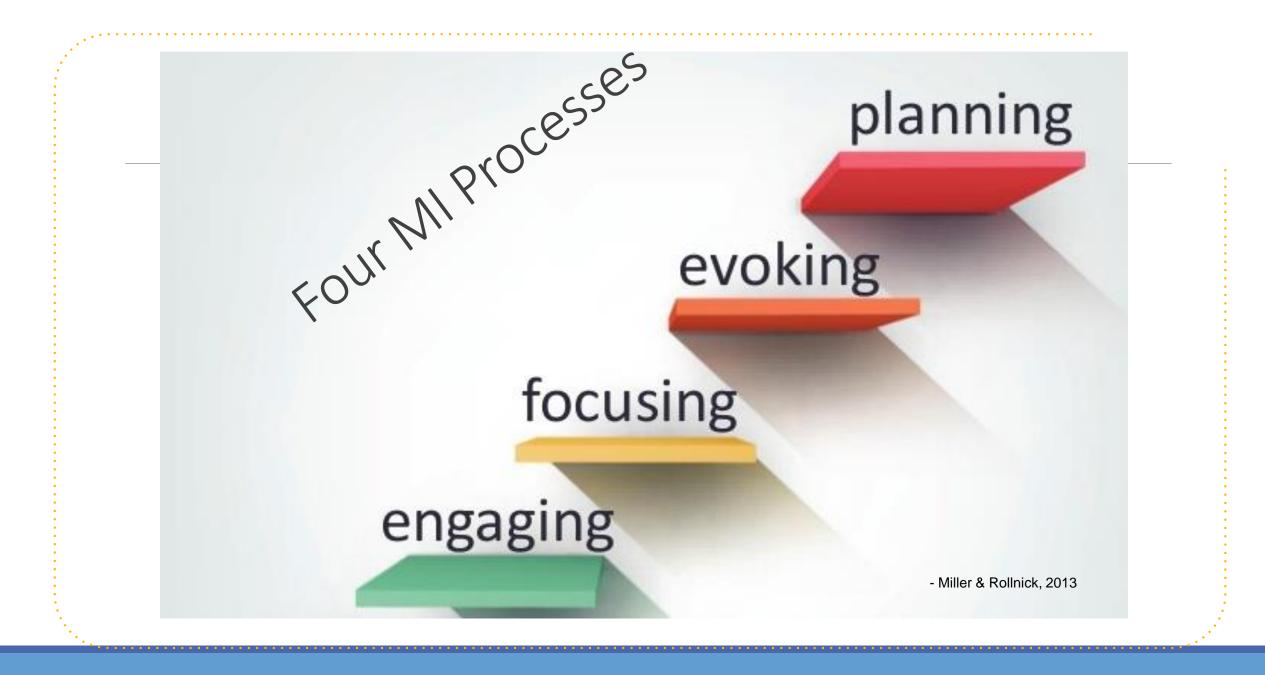
Students fill out a survey packet on their current coping strategies, school engagement, and perceived parenting practices. Coach enters student's survey data into computerized scoring system to compare their responses to a sample of 2379 AP/IB students across FL

Students meet individually with a MAP coach for a 1hour coaching session (MAP Meeting 1).

Coach delivers personalized letter to student, with a reminder of their action plan

Students are offered a second session to review their progress on their goal and/or work towards a new goal (MAP Meeting 2)

MAP Intervention Multi-Step Process



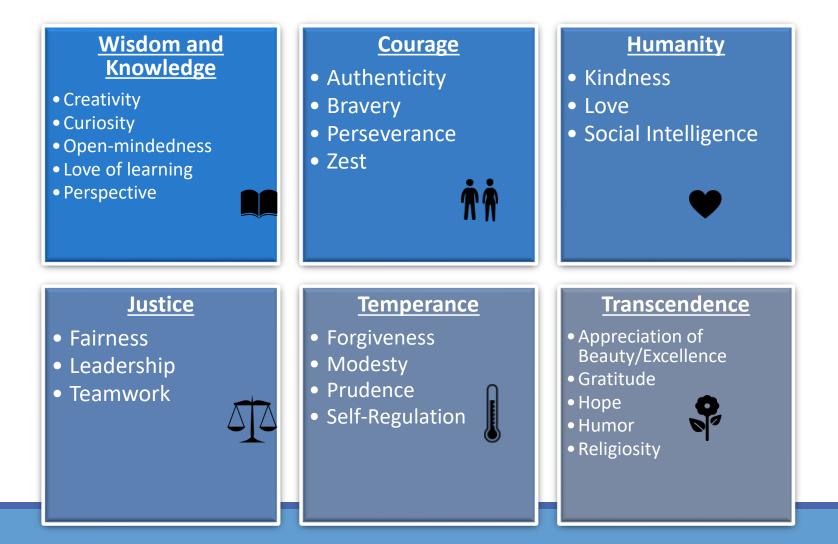


Engage

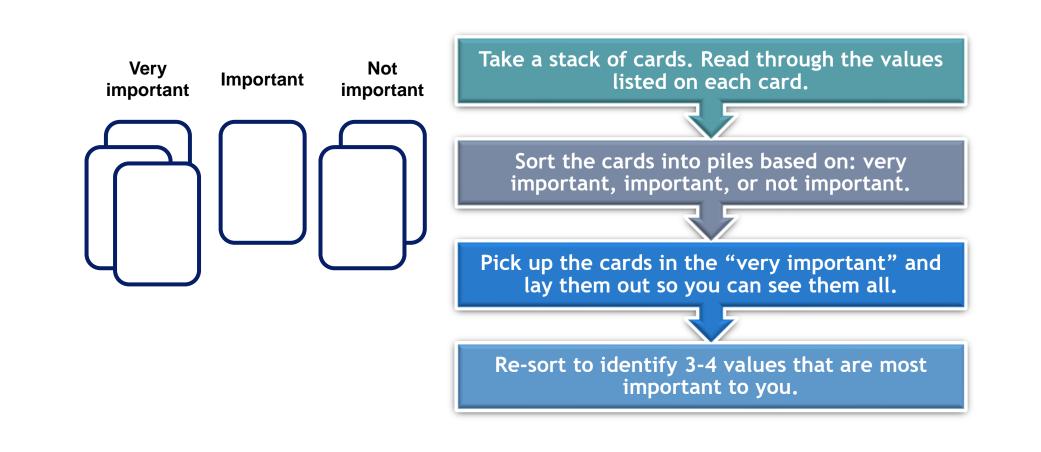
"Therapeutic engagement is a prerequisite for everything that follows" – Miller & Rollnick (2013)

MAP Goal: Inquire about Student's Strengths, Values, and Goals

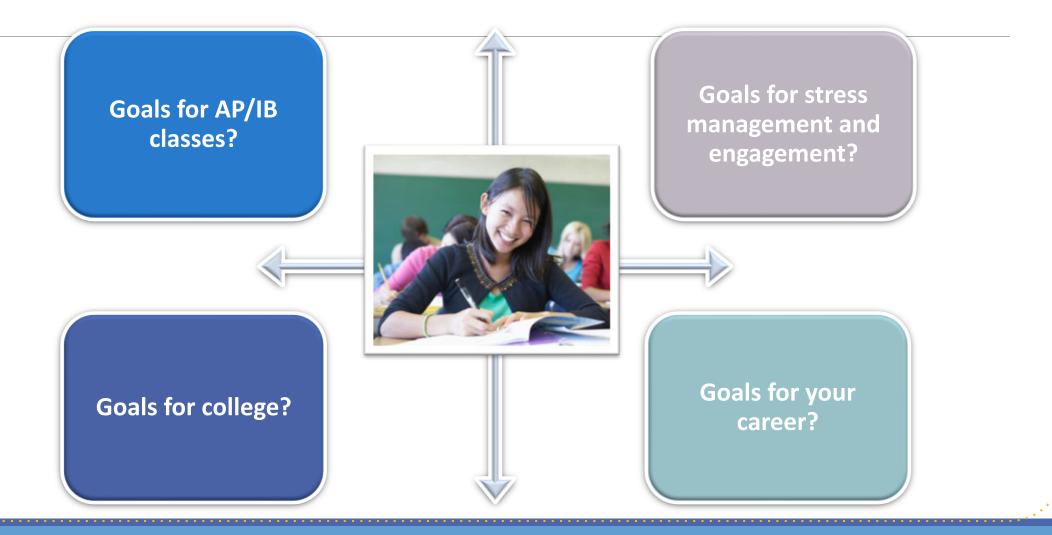
VIA Classification of Character Strengths



Values Discovery Card Sort



Help Students Identify their Goals



Example Questions Posed during

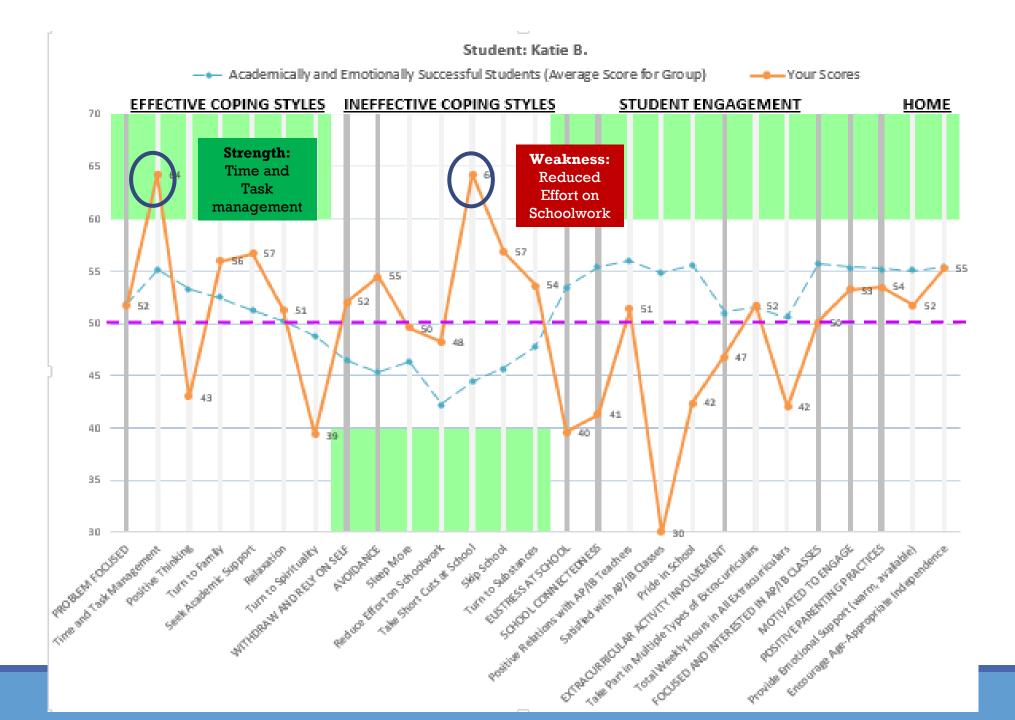
- What are the most important things in your life right now?
- Review previously identified values and character strengths (identified through Module 12 in ACE Program curriculum)
- Tell me about what you see yourself doing after high school?
- How does being successful in AP/IB classes, both academically and emotionally, align with your goals and values?



Focus

"It's no use setting off in a clear destination if the client won't go with you." – Miller & Rollnick (2013)

MAP Goal: Discuss relative strengths and weaknesses in coping and connectedness and offer normative feedback.



Example Questions Posed during Focus

- Elicit student's own perceptions of these comparisons
 - What do you make of your score that is far from the average AP/IB student?
- Use complex reflections to affirm strengths and develop discrepancy between current status on behaviors and student's long-term goals, values, and expressed desire for academic and emotional well-being.
 - How is your current use of time and task management likely affecting your performance in class?
- Prioritize target behavior to discuss further.
 - We've talked about a lot of different things. Which one seems the most important for your to focus on at the moment?

Evoke

"It is the truth we ourselves speak rather than the treatment we receive that heals us."– O. Hobart Mowar

MAP Goal: Pose questions that elicit change talk on the factors the student wants to address further

Example Questions Posed during Evoke

- Why is increasing your effort on assignments so important to you?
- What are the 3 best reasons for making a change in your positive thinking?
- What do you suppose the future holds if you are 100% successful in not procrastinating on assignments?
- Use importance ruler to gauge the student's readiness for making a change in target area: On a scale from 1 to 10, how important is it for you to seek out support from people at school?

Livia

Importance Ruler

(Helps elicit change talk)

			Iı	nportar	ice Rule	r			
1	2	3	4	5	6	7	8	9	10
Not Imp	ortant			R				Very In	portant

- On a scale from 1 (not important) to 10 (very important), how important is it for you to change [target behavior]?
- *Why are you a* [number given] *and not a* [number-2]?

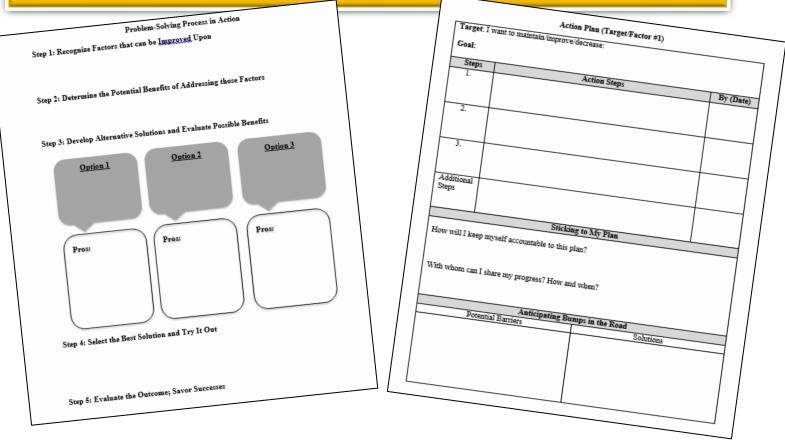


Plan

"Ultimately it is the client who must own and implement the change plan." – Miller & Rollnick (2013)

MAP Goal: Develop action targeting predictors of success and boosting confidence for change





Example handout

I wa	ccomplish <u>success in IB</u> to get inte ant to improve/decrease/maintain my ess by skipping school; get perfect	[ACE Program Target(s)]: <u>Stop i</u>	
Steps	Action:		By (Date):
1.	Take few minutes in the morni	ng for a positive pep talk	Tomorrow
2.	Ride to school with mom		Тототоч
3.	Use agenda to record deadline all tasks	s; schedule time to complete	Next week
Additional Steps	Learn the details of the carpoo	l, and prepare to join it	Weekend
•	Sticking to	My Plan	
manager ~ Tell my morning With whom Tell my m	is paper in the front of my agen nent plan. 1 mom about my positive mind happy which would be good for n can I share my progress? How and v com about my plantonight after es a week about how well I'm sti	lset goal, ask her to help 1 her too! vhen? my softball game, then give	me keep the
	Anticipating Bun	aps in the Road	
	Potential Barriers*	Solutions	
	nes I get into a down mood in stressful situations that are ed by me:	Reach out to my mom in extra stressful time she listener and makes me feel helps me remember my goa Remind myself of other t achieved my goals, like y brave and chose to go into	e's a good better, and ils: imes I have when I was

Evaluation of the Acceptability of MAP

Participants	Study 1 (S1) 2016-17	Study 2 (S2) 2017-18	
High Schools	2 (1 IB, 1 AP)	8 (3 IB, 5 AP)	
Students	49 (MAP Meeting 1) 42 (MAP Meeting 2)	121 (MAP Meeting 2) 114 (MAP Meeting 2)	
Coaches	7 (3 Ph.D. level, 4 graduate students)	7 (3 Ph.D. level, 4 graduate students)	
End Users (School Mental Health Staff)	3 (1 school counselor, 2 school psychologists)	12 (5 school counselors, 7 school psychologists)	

	Informant	Quantitative	Qualitative
Data Sources	Students	Ratings on acceptability surveys: MAP Meeting 1 (11 items; α =.86) Progress since MAP Meeting 1 (5 items; α =.70) MAP Meeting 2 (8 items; α =.86)	<u>Three open-ended questions on</u> <u>acceptability surveys:</u> Most interesting/useful part of meeting? Recommendations for change? Additional comments?
	Coaches	Ratings on acceptability surveys: MAP Meeting 1 (2 items; α =.82) Progress since MAP Meeting 1 (1 item) MAP Meeting 2 (2 items; α =.89)	<u>Three open-ended questions on</u> <u>acceptability surveys:</u> Most interesting/useful part of meeting? Recommendations for change? Additional comments?
	End Users (SMH Staff)	Ratings on acceptability surveys: MAP Meetings 1 and 2 (26 items; α =.95)	<u>Semi-structured interviews</u> Overall impressions of MAP Meeting 1? Overall impressions of MAP Meeting 2?
	Applicability data	Research records: Session duration, fidelity of implementation, MI quality	

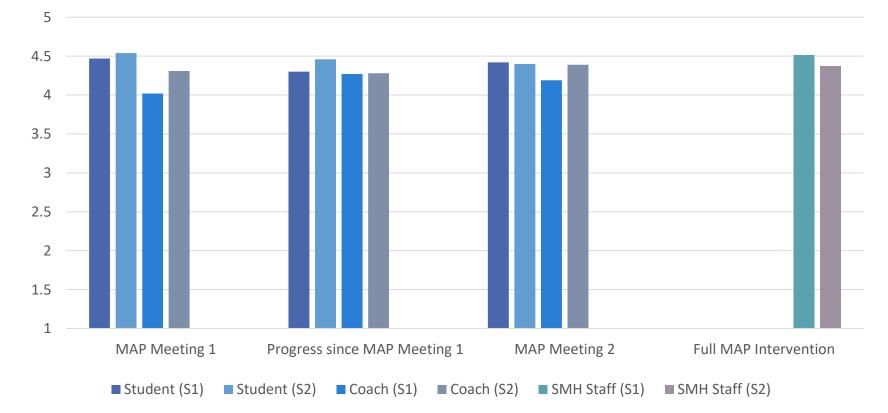
Findings: Applicability

	Study 1	Study 2
Participation rate (% of invited students who completed MAP Meeting 1)	38.3%	85.8%
Retention rate (% of participants who completed MAP Meeting 2)	85.7%	94.2%
Duration: MAP Meeting 1	58.32 mins (SD = 9.33)	50.84 mins (SD = 10.72)
Duration: MAP Meeting 2	40.81 mins (SD = 10.99)	34.02 mins (SD = 15.53)
Fidelity to Protocol: MAP Meeting 1	96% FOI (SD = 2.6%)	95% FOI (SD = 4.3%)
Fidelity to Protocol: MAP Meeting 2	94% FOI (SD = 5.6%)	95% FOI (SD = 2.7%)

Findings: Acceptability Ratings (S1 = Study 1; S2 = Study 2)

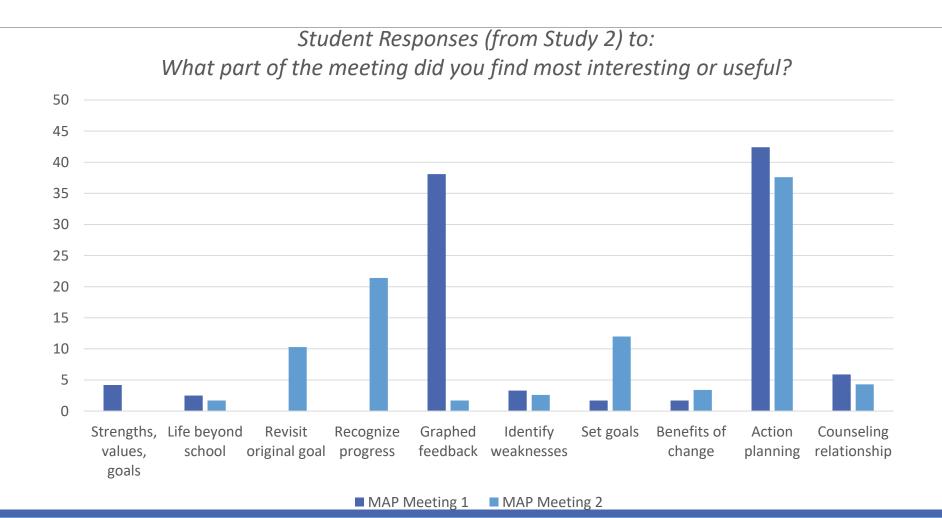
Student, Coach, and School Mental Health (SMH) Services Provider





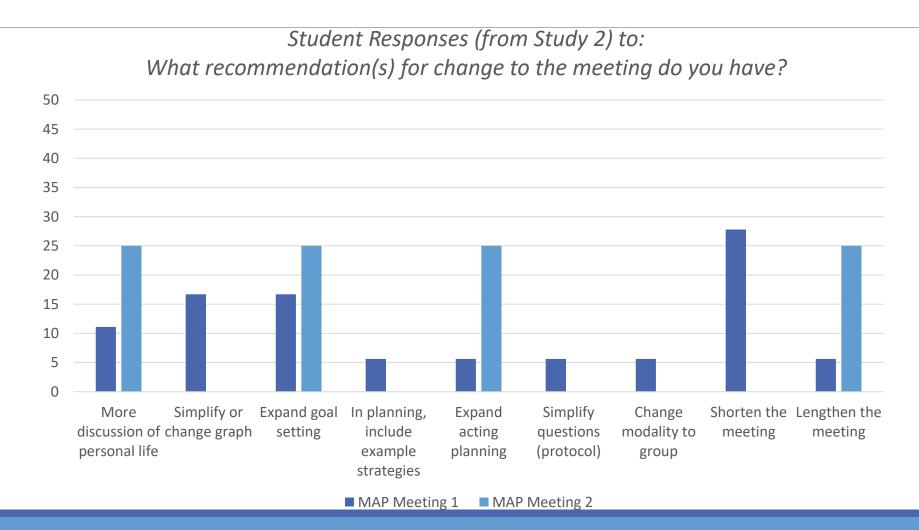
Note. Response scale ranged from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Higher average scores represent higher acceptability. Students and coaches completed acceptability measures after each MAP Meeting 1 and 2. SMH staff completed acceptability ratings after reviewing intervention protocols and audio files from a de-identified case

Students' Preferred Aspects: MAP Meeting 1 (118 sentiments from 112 respondents), and MAP Meeting 2 (117 sentiments from 107 respondents)



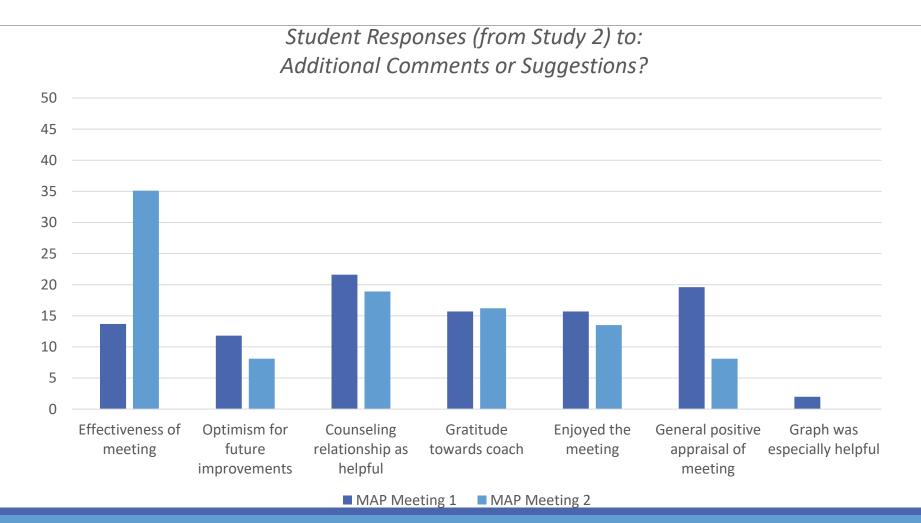
Note. Numbers in chart reflect % of sentiments (written responses) assigned a given code

Students' Recommendations for Change: MAP Meeting 1 (18 ideas from 112 students; 83.3% indicated "nothing") & MAP Meeting 2 (4 ideas from 107 students; 96.3% indicated "nothing")



Note. Numbers in chart reflect % of sentiments (written responses) assigned a given code

Students' Additional Comments: MAP Meeting 1 (51 sentiments from 112 students; 59.8% indicated "none") & MAP Meeting 2 (37 sentiments from 107 students; 70.1% indicated "none")



Note. Numbers in chart reflect % of sentiments (written responses) assigned a given code

MAP: Themes from Interviews in Study 2

School counselors and school psychologists conveyed that the MAP intervention is a self-contained, usable intervention that is appropriate for providing AP and IB students with brief support.

Without systematic supports, AP and IB students often fly under the radar and experience internalizing symptoms (e.g., anxiety) but the universal nature of ACE and the screening helped to prevent some likely later problems and allow all students a chance to receive early supports.

The focus on the stressors faced by AP and IB students is a necessary curricular emphasis that has been needed for these students.

MAP Meetings 1 and 2 (Themes, cont'd)

MAP Meeting 1:

- SMH staff felt that the MAP meeting was effective due to factors such as *student-directed nature* of the meeting, the counselor-student *relationship*, and how *positive* and *productive* the meeting was, and the high level of *student engagement* in the meeting
- The visual elements of the MAP meeting (action plan, graph, etc.) assisted with the meeting flow and facilitated good discussion in the meeting.
- Although every section of meeting seen as important, *planning* was especially important and 'powerful' part of the MAP session, due to the perception that an action plan is tangible/concrete, holds students accountable and solidifies the work the student and coach have discussed in the session so far.

MAP Meeting 2:

- The *positive relationship* between the coach and student was evident in the 2nd meeting.
- The 2nd meeting was *useful*, some felt because it helped the student gain *support* from a concerned individual with whom they can celebrate successes; students may have realized the benefit of connecting with another person for assistance.
- The 2nd meeting functioned to hold the students *accountable* to an adult for reporting actions taken and progress made on the initial plan.
- The *problem-solving process* was further applied in this 2nd meeting; it gave the student an opportunity to reflect on their goal, see the benefits of following through with a plan of action, and learn to revise plans as needed.
- Students had a chance to practice *progress monitoring* their own *goal attainment;* such reflection and critical thinking are necessary for success in AP/IB.

Questions? and Acknowledgments

For more info, contact:

- Shannon Suldo: <u>suldo@usf.edu</u>
- Lindsey O'Brennan: <u>lobrennan@usf.edu</u>

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 - Jon Lee
- William & Mary
 - Janise Parker
- Texas Tech University
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Conclusions, Next Steps, & Future Research

- Proficient use of MI in school-based settings is achievable
- Need more systematic studies of MI fidelity with teachers and students
- Need to examine variation across sessions with respect to MI processes (i.e., engagement, focusing, evoking, and planning) and program recipients
- Need to examine fidelity within the interaction between coach and recipient
- Need MI fidelity systems and procedures that can implemented efficiently and effectively in real-world, school-based settings
- Need MI fidelity systems that (a) establish initial fidelity and (b) enable monitoring across time

The Use of Motivational Interviewing Across Multiple Educational Contexts

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Fidelity/Integrity

- Application in many contexts
 - Intervention with youth experiencing stress
 - As an intervention supplement
 - Consultation/coaching with teachers
 - Administrative leadership
- Need to be careful not to water down
- Need to be careful how we talk about it when we train others
 - How will others perceive it, if it is mis-represented
 - Is it as effective if the recipient understands the underlying mechanism?

Mechanisms

Proposed paths of action

- Skills practices leads to competency and proficiency
- Therapist behaviors (e.g., eliciting change talk) leads to client change talk
- Change talk leads to intentions
- Intensions lead to behavior change

Need more studies testing these causal linkages

- How do we capture longitudinally so that we can make causal statements
- Are the mechanisms the same across contexts (high achieving youth; teachers)

Measurement

How do we efficiently measure behaviors in each path of action?

Paper submitted: teacher ratings on change rulers were associated with change in classroom management practices two weeks later

What can we learn about measurement from MAP?