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The Effects of a Syllabus on Students' Perceptions of the Motivational Climate in a Course

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Abstract

A course syllabus can affect students' perceptions of the motivational climate within a course. Yet, few researchers have conducted experimental studies of students' perceptions of syllabi in courses in which they were currently enrolled. The purpose of the present studies was to assess the extent to which syllabi language and organization affected students' motivation-related perceptions in hypothetical and real courses. In Study 1, undergraduate students reported their motivation-related perceptions for hypothetical syllabi statements about the course overview, late submissions, attendance, and use of electronics. Statistically significant differences in perceptions were documented between different types of syllabi statements. Study 2 was an experimental study in which students in a "real" course were randomly assigned either a regular syllabus or one that was designed to increase their motivation-related perceptions. No statistically significant differences were documented between the two groups for students' motivation-related perceptions. Implications for instructors and researchers are provided.

Keywords

syllabus design, motivational climate, course design, MUSIC Model of Motivation, student perceptions, engagement

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Cover Page Footnote

We would like to acknowledge Hande Fenerci for her thoughtful comments related to this study.

The Effects of a Syllabus on Students' Perceptions of the Motivational Climate in a Course

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A course syllabus can affect students' perceptions of the motivational climate within a course. Yet, few researchers have conducted experimental studies of students' perceptions of syllabi in courses in which they were currently enrolled. The purpose of the present studies was to assess the extent to which syllabi language and organization affected students' motivation-related perceptions in hypothetical and real courses. In Study 1, undergraduate students reported their motivation-related perceptions for hypothetical syllabi statements about the course overview, late submissions, attendance, and use of electronics. Statistically significant differences in perceptions were documented between different types of syllabi statements. Study 2 was an experimental study in which students in a "real" course were randomly assigned either a regular syllabus or one that was designed to increase their motivation-related perceptions. No statistically significant differences were documented between the two groups for students' motivation-related perceptions. Implications for instructors and researchers are provided.

INTRODUCTION

The MUSIC Model of Motivation (Jones, 2009, 2018, 2020) was developed to help instructors apply educational psychology and motivation science principles to teaching by identifying five groups of strategies that instructors can use to motivate and engage students. As explained by Jones (2018): "The instructor needs to ensure that students: (1) feel *empowered* by having the ability to make decisions about some aspects of their learning, (2) understand why what they are learning is *useful* for their short- or long-term goals, (3) believe that they can *succeed* if they put forth the effort required, (4) are *interested* in the content and instructional activities, and (5) believe that others in the learning environment, such as the instructor and other students, *care* about their learning and about them as a person" (p. 9) (MUSIC is an acronym for the titles of these five groups of strategies). Researchers have documented that students' perceptions of empowerment, usefulness, success, interest, and caring (hereafter referred to as "MUSIC perceptions") are part of the motivational climate that is associated with students' course engagement and evaluations of teaching (Jones, 2019; Jones et al., 2021; Jones et al., 2022; Wilkins et al., 2021).

Instructors can intentionally select instructional strategies to increase students' perceptions of one or more MUSIC perceptions (McGinley & Jones, 2014; Hulleman et al., 2017). One means through which instructors can accomplish this is through their communications with students, including their communications on syllabi (Richmond et al., 2016). As an example related to the caring component of the MUSIC model, students who are provided with syllabi that are written in a more friendly tone are more likely to rate their instructor as being more approachable (Harnish et al., 2011). Although some experimental studies have manipulated syllabi language and assessed the effects on students' perceptions (Harnish et al., 2011; Richmond et al., 2016), more evidence is needed to better understand how syllabi statements affect students' MUSIC perceptions. In particular, researchers have not thoroughly explored syllabi statements that may increase some

MUSIC perceptions and decrease others. For example, requiring students to attend every class may decrease their perceptions of empowerment (by not giving them the choice to attend or not), yet it may increase their perceptions of caring (students may believe that the teacher cares enough to want them to attend class).

In this article, we provide the results of two studies that assessed the extent to which different types of syllabi statements affected students' MUSIC perceptions. Identifying how different syllabi statements affect students' MUSIC perceptions could help instructors write syllabi in ways that are most likely to have positive effects on the motivational climate in the course and increase student motivation and engagement.

LITERATURE REVIEW

The MUSIC Model of Motivation

Researchers have documented that undergraduate students' MUSIC perceptions are related to many different positive outcomes, including their course engagement and student evaluations of teaching (Jones, 2010, 2019; Jones & Skaggs, 2016; Jones et al., 2022; Wilkins et al., 2021; see Wentzel & Miele, 2016). In the MUSIC model, students feel empowered when they have choices, control, and freedom within the learning environment (Deci & Ryan, 2020). Students have high perceptions of usefulness when they believe that the course content and activities are useful to their lives, either in short- or long-term (Eccles & Wigfield, 2020). Success expectancies refer to students' beliefs that they can succeed if they put forth effort (Bandura, 1997). The interest component of the MUSIC model refers to both short-term, situational interest and longer-term, individual interest that persists over time (Renninger & Hidi, 2015). Students are situationally interested in courses when the course activities are enjoyable and hold their attention. Lastly, students perceive high levels of caring when the instructor and other students in the course care about their learning and well-being (Wentzel, 1999).

The MUSIC model depicts student motivation as a cycle in which instructors can affect students' MUSIC perceptions, which then affect their motivation (i.e., "the extent to which one intends to engage in an activity" [Jones, 2018, p. 5]). Students' motivation then affects their engagement, which then affects their learning/performance (see Figure 1). Consistent with attribution theory (Weiner, 2000) students interpret the outcomes of their learning/performance, which then affects the external and internal factors shown in Figure 1. Of course, students' motivation is also affected by other activities in which they want to engage; and therefore, they make cost/benefit decisions to choose which activity to engage in at any one time (as depicted by the "cost/benefit decisions" rectangle in Figure 1).

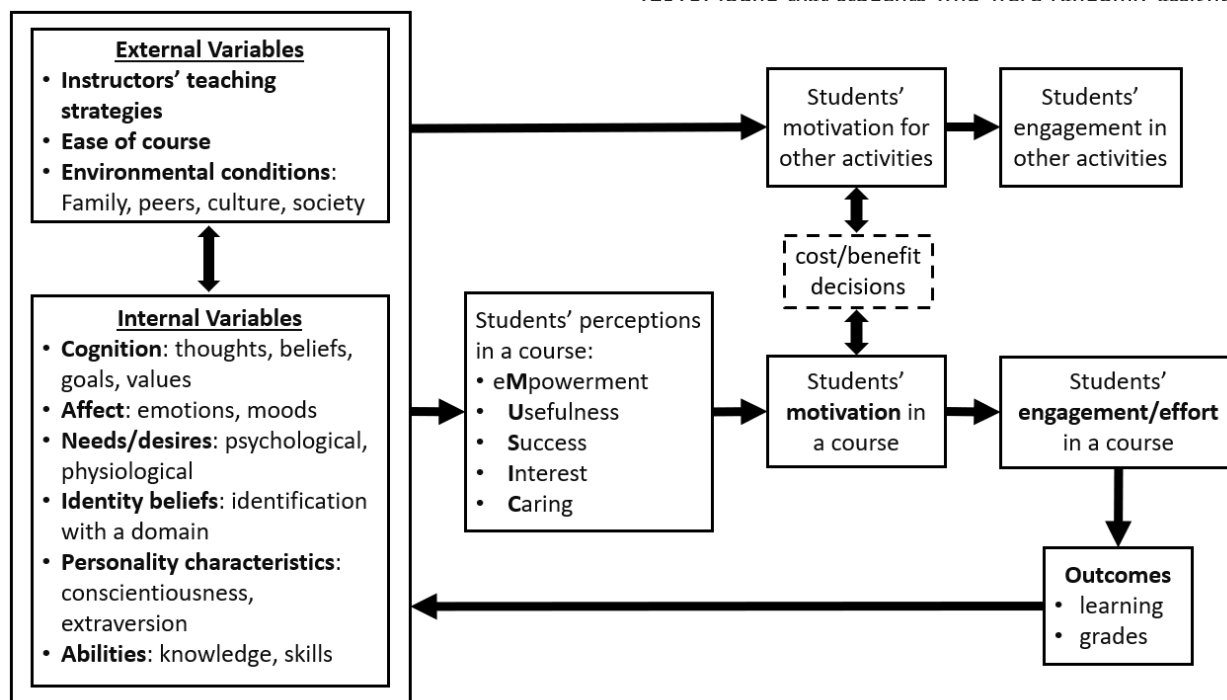


Figure 1. The MUSIC Model of Motivation as it relates to students in a course

Note: Adapted from "Motivating Students by Design" by B. D. Jones, 2018, p. 13. Copyright 2018 by Brett D. Jones. Reprinted with permission.

EFFECTS OF SYLLABI STATEMENTS ON STUDENTS' PERCEPTIONS

Although anything an instructor does can affect students' MUSIC perceptions and motivation to engage in a course, the present studies focused on the information included in syllabi and how that information was presented. Slattery and Carlson (2005) identified three typical functions of a strong syllabus: motivational, structural, and evidentiary functions. Motivational functions refer to how a syllabus can encourage and motivate students, or discourage and have negative effects on students' course perceptions. The structural functions of a syllabus serve to help the instructor stay on track and ensure that the students understand what they need to do to earn their desired grade. The evidentiary function is the role that the syllabus plays as a contract between instructor and students. The focus of the present studies are related to the motivational functions; and specifically, how instructors can craft syllabi that motivate students to engage in their courses. In this section, we explain four different types of syllabi that researchers have used in an attempt to motivate students: a learner-centered

syllabus, an engaging syllabus, a learning-focused syllabus, and a syllabus that focuses on the language within the syllabus text.

The attributes of a "learner-centered" syllabus align well with the MUSIC model principles. As examples, a learner-centered syllabus (a) empowers students by sharing control and power with students (e.g., students have control and choices throughout the course), (b) supports students' perceptions of success by focusing on assessment and evaluation directly linked to learning objectives (e.g., explicitly stated learning outcomes, multiple options for students to demonstrate learning outcomes, etc.), and (c) fosters student's perceptions of caring by creating a sense of community (e.g., providing a variety of means to access the instructor) (Cullen & Harris, 2009; Richmond et al., 2016). Richmond et al. (2016) found that students who were randomly assigned to a

learner-centered syllabus from a hypothetical teacher viewed the instructor as more caring, encouraging, and reliable, and the students were more engaged.

An "engaging syllabus" is a variation of the learner-centered syllabus that focuses on affecting slightly different aspects of the MUSIC model. For instance, an engaging syllabus can (a) trigger students' *interest* by using elements of graphic design, (b) explain the *usefulness* of the course content by describing the course in ways that connect it to students' professional experiences, and (c) promote *caring* by including student-focused text. As evidence, researchers have found that students perceive the engaging syllabus to be more appealing and to trigger more *interest* in the class and instructor (Ludy et al., 2016). Students also perceive the instructor to be more *caring* (e.g., approachable, encouraging) (Ludy et al., 2016).

A "learning-focused" syllabus can also have several positive effects on students' MUSIC perceptions because it includes strong learning objectives, robust and detailed descriptions of the schedule and assessments, and a positive motivating tone (Palmer et al.,

2016; Wheeler et al., 2019). Students who receive a learning-focused syllabus tend to believe the following: it is *useful*, helpful (which increases students' perceptions of *success*), and *interesting*; the in-class activities are more *interesting*; the course is more *useful* and important; and the instructor is more *caring*, approachable, and supportive (Palmer et al., 2016; Wheeler et al., 2019).

The language that an instructor uses within the syllabus can also impact students' MUSIC perceptions. For example, a syllabus with a friendly tone can lead students to believe that the course is less difficult (i.e., increase *success* perceptions) and that the instructor is warmer, more approachable, and more motivated to teach (i.e., increase perceptions of *caring*; Harnish & Bridges, 2011). Similarly, students who have been shown a syllabus that adopts autonomy-supportive language instead of controlling language perceive that the learning climate is warmer (increased *caring* perception) and the course is more beneficial (increased *usefulness* perceptions) (Young-Jones et al., 2021).

For many of these syllabus studies, researchers provided students with a specially-created syllabus from a hypothesized instructor and course. Then, they asked students to read the syllabus and complete a questionnaire about their perceptions of the syllabus. Only a few studies have provided students with a syllabus from a "real" class (e.g., Kaur, 2021; Yarosh, 2021). In one of these studies (Kaur, 2021), different syllabi were formatted the same with an infographic style and distributed to students in three online courses. In the first class of the semester, students met the instructor and were introduced to the course. Students then read the syllabus and discussed the syllabus in breakout rooms with three to four students. At the end of the semester, students completed a survey with a section addressing the syllabus. Survey items inquired about students' frequency of use, ease of use, preference, and reading depth of the syllabus, and the impact of the syllabus on impressions of the course.

Although studies about students' perceptions of syllabi have contributed to the research in this area, more studies are needed with "real" classes to verify that the findings documented in "artificial" conditions apply equally to those in real classes with real implications for students' lives. That is, how students respond to a hypothetical class syllabus for a class that they are not enrolled in may be different from how they respond to a class that affects their grades and overall GPA. Therefore, we designed two studies that would add to the existing research in this area. Study 1 used hypothetical statements to determine whether different statements elicited different responses from students. In Study 2, we incorporated some of these ideas into a real course syllabus and assessed students' perceptions soon after they read the syllabus and two weeks later.

STUDY 1

Research Question

The research question that guided Study 1 was the following:

How do different examples of syllabi statements affect students' MUSIC perceptions?

To answer this question, we presented students with different syllabi statements that could possibly have differential effects on their MUSIC perceptions and asked them to rate their perceptions of the statements.

METHODOLOGY

Participants

The participants included 29 students from two online courses at a large public university in the southeastern U.S. The participants were majoring in a variety of undergraduate majors. The study was reviewed by the Institutional Review Board at the authors' university (IRB #22-162).

Procedure and Measures

Students completed an online survey as part of an assignment in one class and for extra credit in the other class. The survey instructions and statements are provided in Table 1. After reading the first instructions, students rated six statements. These statements were created by the first author based on similar statements that he had used previously in his syllabi. A reasonable alternate was also created for each statement, which resulted in six statements that were presented separately on the survey to students (a Statement A and a Statement B in the categories of late submissions, attendance, and use of electronics). To ensure that students would not assume the statements were from the same syllabus, students were provided with the following information prior to each statement: "Statement from the syllabus (not the same syllabus as the other questions in this survey)."

The first six statements (the ones that followed the first instructions, see Table 1) were provided in random order and each student received a different random order for these six statements. After each of these six statements, students were given these instructions: "If you received the above statement on a syllabus during the first day of this course how would it affect your perceptions of the following?" Then, students completed one item for each of the empowerment, success, and caring components of the MUSIC model: "I have a lot of control over my learning environment in this course" (empowerment), "I believe that I can succeed in this course" (success), and "The instructor cares about my success in this course" (caring). Each item was rated on a 6-point Likert-format scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), with an additional option of "n/a = This statement doesn't affect my perceptions." These items were modeled after similar items used in the MUSIC Model of Academic Motivation Inventory (Jones, 2012/2022), which is described in more detail in Study 2.

After students in both courses ($n = 29$) rated the six statements, students in the first course ($n = 16$) were given the following instructions: "Now that you have read some different statements from a syllabus, I have put together some of these different statements in 2 different partial syllabi. Please read the first partial syllabus and give your ratings. Then go to the next page and read the second syllabus and give your ratings." The first partial syllabus was comprised of the three Statement A items shown in Table 1 (i.e., the statements about late submissions, attendance, and use of electronics) and the second partial syllabus included the three Statement B items in Table 1. The two partial syllabi were ordered randomly for each student. Students rated both partial syllabi using the same three items (for empowerment, success, and caring) that were used for the prior six items.

Instead of being provided with the two partial syllabi, students in the second course ($n = 13$) were given two "Course Overview" statements (see Table 1) that followed the second instructions provided in Table 1. These two statements were mixed in randomly with the prior six items. Students rated these two state-

Table 1. Online Survey Instructions and Statements

Syllabi section	Statement A	Statement B
First instructions	The purpose of this survey is to assess your perceptions of statements that are part of a college course syllabus. You will be presented with some short statements and asked to rate your perceptions of them. Some of the statements may seem similar, but please read them all carefully. Imagine that this is one of your typical courses and that it meets twice a week for 75 minutes during a 15 week semester.	
Late submissions	Assignments are due on the date specified in this syllabus. Late work is not accepted. If you don't complete an assignment by the due date, you will receive a grade of 0 points for that assignment.	Assignments are due on the date specified in this syllabus. If you don't turn in an assignment on the due date, you may turn it in anytime on or before the last day of class prior to finals week. However, you will receive a 10% reduction for each week that the assignment is late (up to a maximum of a 30% reduction). The reason for the point reductions is to keep everyone on schedule and we often discuss the assignments in class. As a result, students who turn in late assignments will not be prepared to participate in class and will have the benefit of extra ideas for their assignments when they do turn them in.
Attendance	Attendance is required in this course because we cover important topics during class. Attendance counts for 10 points, which is 10% of your final grade. Your attendance grade is calculated as follows: 0 absences = 10 points 1 absence = 9 points 2 absences = 8 points 3 absences = 7 points 4 absences = 6 points This pattern continues to 0 points.	Although attendance is recommended and we cover important topics during class, attendance is not counted as part of your grade in this course.
Use of electronics	Electronics (such as laptops, phones, and tablets) are not permitted during class time because they are not required for class participation and all of the class notes are provided.	Although electronics (such as laptops, phones, and tablets) are not required for class participation and all of the class notes are provided, electronics are allowed in this course as long as you don't disturb other students in the class when using them.
Second instructions	This online course is for students who plan to become teachers. Statement from the syllabus (not the same syllabus as the other questions in this survey).	
Course overview	This course is completed entirely online through Canvas (https://canvas.edu/). There are no required course meetings online or face-to-face. Students work on the course material at their own pace; however, they are required to complete the assignments by the dates provided in the Due Dates and Planning section of this syllabus. The instructor is available to answer students' questions as they progress through the course.	Welcome to this course about learning, development, motivation, and assessment! I hope that you find the course interesting and that you learn a variety of theories and practical strategies that will help you in your personal life and as a teacher. You will complete this course entirely online through Canvas (https://canvas.edu/). You will not need to meet as a class online or face-to-face. You can work on the course material at your own pace; however, you will need to complete the assignments by the dates provided in the Due Dates and Planning section of this syllabus. As your instructor, I'm available to answer your questions as you progress through the course.

ments using the same three items that were used for the prior six items. In addition, students rated this interest item: "This course is interesting to me."

PREDICTIONS

For the two late submission statements, we predicted that allowing students to turn in assignments late with a penalty (Statement B) would lead to higher student ratings for empowerment, success, and caring than not allowing students to turn in late assignments (Statement A). In the MUSIC model, empowerment refers to giving students choices, and clearly, Statement B provides more choices than Statement A. Statement B also can increase students' grades, which can help them feel that they can be successful and that the teacher cares about their success because they gave them this option.

We predicted that not requiring attendance (Statement B) would lead to higher perceptions of empowerment, success, and caring than requiring students to attend (Statement A). Having the option of attending class or not should lead to higher perceptions of empowerment and caring (i.e., teachers care enough to respect their decision to attend or not). Students should also have higher

perceptions of success because their grade will not be lowered if they do not attend class.

Allowing students to use electronics in class (Statement B) should lead to (a) higher perceptions of empowerment because it gives students a choice and (b) higher perceptions of caring because teachers respect students' decisions to use electronics. We predicted that students would report lower perceptions of success if they were allowed to use electronics given that they are not needed for the class (i.e., class notes are provided) and students may learn less in class because they are distracted by their use of electronics during class. Because we predicted that students would rate Statement B higher than Statement A for the empowerment, success, and caring items (except for the electronics statement, which we predicted the opposite for success), we predicted that students would rate partial syllabus B higher than partial syllabus A for empowerment, success, and caring.

Finally, we predicted that students would rate usefulness, interest, and caring perceptions higher for Statement B of the Course Overview than Statement A. Statement B is written in the first person (whereas Statement A is written in the third person), which could increase students' perceptions of interest

and caring. Statement B also includes two additional sentences that were intended to demonstrate that the instructor is enthusiastic about the course (to generate interest) and the course is useful (because the theories and strategies should apply to students' life and career). Unfortunately, a survey item about students' perceptions of the usefulness of the Course Overview was inadvertently not included on the survey. We did not anticipate that the statements would vary for empowerment or success.

RESULTS

All 29 study participants completed the questions related to the late submissions, attendance, and use of electronics statements. Sixteen of those students in one course also completed the partial syllabus questions and 13 of those students in the other class also completed the questions related to the course overview statement.

Table 2 shows the median and range for each of the variables. We used the Wilcoxon signed rank test in SPSS (version 25) to compare the groups because the same students rated both statements (the samples were related) and the data were not normally distributed. We set our alpha level at .05 for the statistical tests. Statement B was rated significantly higher for all perceptions except for a few that were rated the same (i.e., success for attendance and course overview; empowerment for course overview) and one for which Statement A was rated significantly higher (caring for attendance). We compare these results to our predictions in the Discussion section.

the instructor to go back and grade an assignment after they have already completed grading all the other assignments. In other cases, this policy change may be difficult to implement; for example, if the instructor wants to review the assignment answers in class, they would not be able to do so without giving away the answers to the assignment to students who have not yet completed it. In these situations it may be possible to develop an alternative, equivalent assignment that students could complete if they need to turn it in after the due date.

We predicted that not grading attendance would lead to higher perceptions of empowerment, success, and caring. Our predictions were not confirmed except that students rated empowerment higher when attendance was not graded. Caring was rated lower when attendance was not graded, and there was no difference between groups for success perceptions. Therefore, attendance policies can have a mixed effect on students' MUSIC perceptions. Given these findings, it is difficult to provide specific recommendations to instructors and the recommendations may vary depending on the course and context. For instance, if classes are primarily lecture and students can obtain the information through other means, it may not be necessary to require attendance. However, if class activities involve a lot of student engagement and learning activities, then requiring attendance could increase attendance and student learning.

We predicted that allowing students to use electronics would lead to higher perceptions of empowerment and caring, but lower perceptions of success. Students reported higher values for all

Table 2. Median, Range, and Wilcoxon Signed-Rank Test Results

Variable	Statement A		Statement B		z	p	Effect size r
	Mdn	Range	Mdn	Range			
Late submissions							
Empowerment	3.5	5.0	5.0	2.5	4.228	<.001	.785
Success	4.0	3.0	6.0	2.0	3.809	<.001	.707
Caring	3.0	5.0	6.0	2.0	4.392	<.001	.816
Attendance							
Empowerment	4.0	5.0	6.0	2.5	4.058	<.001	.754
Success	5.0	4.0	5.0	2.5	.692	.489	.129
Caring	5.0	4.0	4.0	3.0	2.850	.004	.529
Electronics							
Empowerment	3.0	5.0	5.0	3.0	3.829	<.001	.711
Success	4.0	4.0	5.0	2.5	2.723	.006	.506
Caring	4.0	4.0	5.0	3.0	2.550	.011	.474
Partial syllabus							
Empowerment	3.0	3.0	6.0	2.0	3.572	<.001	.893
Success	4.5	3.0	5.5	2.0	2.341	.019	.585
Caring	4.0	3.0	5.5	2.0	2.183	.029	.546
Course overview							
Empowerment	5.0	2.0	6.0	2.0	1.933	.053	.536
Success	5.0	2.0	5.0	2.0	1.414	.157	.392
Interest	3.5	4.0	5.0	3.0	2.032	.042	.564
Caring	5.0	3.0	5.0	2.5	2.271	.023 ^a	.630

Note. See Table 1 for the corresponding statements. Significance values represent comparisons between Statement A and B for each MUSIC perception. *n* = 29 for all comparisons except for partial syllabus (*n* = 16) and course overview (*n* = 13).
^a Caring was rated higher for Statement B than for Statement A (even though the median values are the same).

DISCUSSION AND IMPLICATIONS

The purpose of Study I was to determine whether different syllabus statements would affect students' MUSIC perceptions. As predicted, allowing students to turn in assignments late (with a penalty) led students to report higher perceptions of empowerment, success, and caring. This finding indicates that instructors who want to increase students' motivation-related perceptions should identify ways to allow students to turn in assignments late, even if there is a penalty involved. In some cases, this policy change might be fairly easy to implement and may only require

three perceptions, thus confirming two of our predictions and disconfirming one of them. Allowing students to use their electronics, even when they are not needed in class, did not have a perceived negative effect on students' success, as predicted. Perhaps students do not believe that multitasking has a negative effect on their learning. Students may be accurate in their beliefs, or just as likely, they may have an illusion of learning (Carpenter et al., 2020; Dunlosky & Lipko, 2007); that is, they believe that they are learning effectively when they are using electronics, but they are not. Another explanation may be that simply having the option to use their electronics if they want to (maybe to help

them during class) increases their perceptions of success even if they do not ever need to or want to use their electronics. The implication is that instructors should allow students to use electronics in class if they want to increase students' perceptions of empowerment, success, and caring. Obviously, this recommendation would have to be reconsidered if allowing students to use electronics interfered with their learning or the learning of other students in class.

For the partial syllabi that included all three statements related to late submissions, attendance, and use of electronics, students gave higher ratings for Partial Syllabus B than A, as expected. Although they rated caring lower for the Statement B for attendance, when that statement was combined with the Statement B for late submissions and electronics in Partial Syllabus B, it led to an overall rating for caring in the Partial Syllabus that was higher for Statement B than A. This finding demonstrates that even if students rate one statement lower, the overall perception can be higher depending on the other statements on the syllabus. We do not know how much this one statement lowered students' overall rating on the partial syllabus. However, future studies could investigate how syllabi that differ in only one statement compare to one another.

Finally, as predicted, adding a welcome statement in the Course Overview section led to higher perceptions of interest and caring (and empowerment was close to significance at $p = .053$). The obvious implication is that instructors should include this type of encouraging welcome statement on syllabi. We did not identify any negative implications of including two short course overview sentences on a syllabus.

STUDY 2

Study 1 demonstrated that four of the MUSIC perceptions can be manipulated through the use of syllabus statements (the fifth MUSIC perception, usefulness, was not tested). The purpose of Study 2 was to add to these findings by conducting a study that (a) used a syllabus from a university course while the students were enrolled in the course, (b) used an experimental design, and (c) manipulated all five MUSIC perceptions. The research question that guided this study was the following: To what extent is it possible to manipulate students' MUSIC perceptions in a university course by changing the language of the syllabus?

METHODOLOGY

Participants and Course

The participants included 37 students enrolled in an online course at a large public university in the southeastern U.S. The course was required as part of a graduate degree for students in certain education majors. Some of the students were already enrolled in their graduate degree programs in education (24.3%, $n = 9$) and others were taking the course as an undergraduate student because they intended to become a teacher or to enroll in a graduate degree program in the future (75.7%, $n = 28$). Most of the students self-identified as female (91.9%, $n = 34$), while three (8.1%) self-identified as male. Students self-identified their race/ethnicity as follows: 86.5% White or Caucasian (not Hispanic) ($n = 32$), 10.8% Asian or Pacific Islander ($n = 4$), and 2.7% Hispanic ($n = 1$).

This course was one of the first "education" courses in which students enrolled, regardless of whether or not they were currently enrolled in a graduate-level education degree. The

course focused on applying theories and research to teaching; and therefore, it had direct relevance to their intended career as a teacher. The course was conducted completely online with no synchronous meetings.

Study Design and Procedure

We used an experimental design so that any differences between groups could be attributed to the intervention. Students were randomly assigned to one of two groups prior to the start of the course. The only difference between the groups was that they received a different syllabus. Group 1 (the control group) received a syllabus that was typical for this course, and Group 2 (the MUSIC group) received a syllabus that was modified in ways that were likely to increase their MUSIC perceptions.

Six days prior to the start of the course, the instructor emailed students the titles of the two required books and information about how to obtain them. He told students to purchase the two books immediately to ensure that they would have them by the first day of class. The day before the start of the course, the instructor emailed students the appropriate syllabus for their group, and students were told that they could begin the course by reading the syllabus and clicking on a URL link (contained in the email) to complete an online assignment that asked them questions about the syllabus. Students were not given access to the online course learning management system (LMS) until they completed the online assignment, which was a survey about their perceptions of the course (as described in the Measures section). The instructional purpose for this procedure was to increase the chances that students would read the syllabus, which was important because the instructor did not meet with students in this online course to explain the syllabus. Completing the survey prior to accessing the course materials ensured that the perceptions that students reported on the survey were a direct result of reading the syllabus and were not influenced by other course materials (e.g., videos, assignments). On the first page of the online survey assignment, students were told not to complete the survey if they had not yet read the entire syllabus. After completing the survey assignment, students in both groups were given access to the same course in the online learning management system (LMS). From that point forward, students in both groups had access to exactly the same course materials and received the same emails from the instructor.

To assess whether students' MUSIC perceptions changed after the first two weeks of the course, students completed an additional survey at the end of the second week. This second survey was completed after students had completed the first survey, a brief description of themselves, a quiz on the first chapter reading from the textbook, and a quiz on the second chapter reading from the textbook. Both of the survey assignments were graded, and students received full credit if they completed the assignment, regardless of their responses. Students were encouraged to answer honestly and the surveys stated that "your instructors will never see your name associated with your responses because they will be separated by someone unaffiliated with this course." For both survey assignments, we compared the responses from students in Group 1 and Group 2 on these variables: the five MUSIC variables, perceived ease of the course, and overall motivation in the course. The alpha level was set at .05 for all statistical tests.

Differences in Syllabi

One syllabus was created for the control group, and one was created for the MUSIC group. Both syllabi included the same assignments and point values for each assignment. Because students in both groups were enrolled in the same course, everything was exactly the same with respect to the resources, learning experiences, and assessments provided. None of the students were placed at a disadvantage by participating in the study because the control group syllabus was similar to syllabi used in prior courses. The only differences were attempts to increase the motivational climate for the students in the MUSIC group through changes in the language and organization of the syllabus.

The changes in the syllabi that were targeted to affect students' perceptions of each of the MUSIC model components as summarized in Table 3. We predicted that all of these changes would lead to increased MUSIC perceptions, and as a result, their overall MUSIC perceptions and motivation would be higher for students in the MUSIC group than students in the control group. We also predicted that students in the MUSIC group would perceive the course to be easier because they would have increased perceptions of success and teacher caring.

MEASURES

The MUSIC Model of Academic Motivation (college student version, 20-item short form).

To assess students' MUSIC perceptions, we used the 20-item short-form college student version of the MUSIC Model of Academic Motivation Inventory (MUSIC Inventory; Jones, 2012/2022). The MUSIC Inventory includes five scales that assess students' perceptions of each of the MUSIC model components: empowerment, usefulness, success, interest, and caring. The 20-item short form has four items for each scale that are averaged to form a scale score. Example items are as follows: "I have the freedom to complete the coursework my own way" (empowerment); "In general, the coursework is useful to me" (usefulness); "I am confident that I can succeed in the coursework" (success); "The coursework seems interesting to me" (interest); and "The

instructor is willing to assist me if I needed help in the course" (caring). These items were exactly the same as the present tense version of the MUSIC Inventory presented in Jones (2012/2022); however a few edits were made to the items in Survey 1. For Survey 1, one success item and the four interest items had to be edited slightly to change the tense of the verbs given that students had not yet started the course. For example, one interest item that usually reads "I enjoy completing the coursework" was changed to "I will enjoy completing the coursework" because students had not yet completed any coursework. The items were ordered randomly for each student individually. All items are rated on a 6-point Likert-format scale with descriptors at each point (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Somewhat disagree*, 4 = *Somewhat agree*, 5 = *Agree*, 6 = *Strongly agree*).

Several studies have documented the validity of the scores from the MUSIC Inventory in samples of college students (e.g., Jones, 2019; Jones et al., 2022; Jones & Skaggs, 2016; Wilkins et al., 2021). We screened the data and replaced two outliers (one for a student on an item on Survey 1 and one for a student for an item on Survey 2) with the mean value on the scale from the student's other three responses to items in that same scale. Cronbach's internal consistency reliability estimates for the scales in Survey 1 and Survey 2, respectively, were as follows: $\alpha = .64, .87$ for empowerment; $\alpha = .84, .80$ for usefulness; $\alpha = .82, .85$ for success; $\alpha = .78, .83$ for interest; and $\alpha = .78, .79$ for caring). All of the values were deemed to be acceptable (George & Mallery, 2003).

Course Motivation

Students rated their course motivation (their intent to engage in the course) by using an online slider that allowed them to select a percentage from 0% to 100% in one-unit increments. The item for Survey 1 was "How much effort do you intend to put into this course," and the item for Survey 2 was "In the future, how much effort do you intend to put into this course?" These items are consistent with the definition of motivation that is used in the MUSIC model: the extent to which one intends to engage in a course (putting forth effort is one means of engaging in a course) (Jones, 2018).

Table 3. Changes Made to the MUSIC Group Syllabus to Target MUSIC Perceptions

MUSIC perception targeted	Syllabus section	MUSIC group
eMpowerment	Language throughout	Potentially controlling language was changed in an attempt to make it less controlling. <ul style="list-style-type: none"> • "students should" was changed to "you may" • "What students need to do" titles was changed to "How you may use it"
Usefulness	Due dates	These two sentences were added at the beginning of the Due Dates section: "Note: Below each chapter title is a bulleted list of topics. I took these topics directly from the [State] Department of Education because you're supposed to learn these topics in your preservice education. Therefore, what we're doing in this class is based on the [State] standards and I have designed this course to meet those requirements."
Success	Purpose language	To increase the prominence of the help features of the course, the subsections titled "Purpose" were changed to "How this can help you" (this was changed nine times in the syllabus)
Success	Learning tools	A new section titled "Learning Tools to Help you Succeed" was created with the text: "In addition to the tools above, I have created additional tools to help you succeed in the course." Three short sections that were in the control group syllabus were moved to this section in an attempt to emphasize that these tools were intended to help students succeed. The sections moved were titled: "Tips for Succeeding in EDEP 5154 document," "Self-Check Practice Quizzes," and "Written feedback on all [assignments]."
Interest and usefulness	Course overview	The following two sentences and student quotation were added at the beginning of the Course Overview section: "Welcome to this course about learning, development, motivation, and assessment! I hope that you find the course content as interesting as I do and that you learn a variety of theories and practical strategies that will help you in your personal life and as a teacher. As one student from the class last year noted: I really enjoyed this course. The material was really interesting to me and most of the assignments gave me an opportunity to apply what I learned and to think about how to use this information in the future."
Caring	Language throughout	With only a few minor exceptions (e.g., the "Honor Code"), the language was changed from third person in the control group version (which referred to "students") to first person by referring to "I" and "you."

Course Ease scale

One item assessed students' perceptions of the ease of the course. In Survey 1, students were asked, "How easy do you think the coursework will be for you?" because they had not completed any coursework at that time. In Survey 2, students were asked, "How easy is the coursework for you." Students rated these items on a 6-point Likert-format scale with the following descriptors: 1 (*very hard*), 2 (*hard*), 3 (*somewhat hard*), 4 (*somewhat easy*), 5 (*easy*), and 6 (*very easy*).

RESULTS

Although we assigned students to groups randomly in equally-sized groups, some students dropped out of the course during the first week (after they had already received the syllabus), which led to unequal group sizes. Thus, the final sample sizes for the control group and MUSIC group were 16 and 21, respectively. Using SPSS (version 25), we conducted Wilcoxon rank sum tests to compare the two groups because the data were not normally distributed and the samples in the two groups were not related. We set our alpha value at .05 for all tests.

Overall, students' median scores on the five MUSIC scales were very high in both groups and were all 5.0 or higher on Survey 1 and 2 (see Table 4). These findings suggest that students in both groups found the syllabus to be supportive of a positive motivational climate in the course. They also rated their motivation very high in the course, as the values on the course motivation scale were at a median value of 99.0% (control group) and 100% (experimental group) for Survey 1 and at 96% (control group) and 95% (experimental group) for Survey 2. Students in both groups, for both surveys, rated the course ease at a median of 4.0, which corresponded to *somewhat easy* on the six-point scale.

There were no statistically significant differences between the two groups for students' MUSIC perceptions, motivation, or course ease perceptions (see Table 4). As an example for Survey 1, there was not a statistically significant difference in empowerment perceptions between the control group ($Mdn = 5.3$) and the experimental group ($Mdn = 5.0$), $z = 1.491$, $p = .136$, $r = 0.245$.

DISCUSSION AND IMPLICATIONS

The purpose of Study 2 was to determine if it was possible to significantly affect students' perceptions of the motivational climate in a university course by changing the language and organization of a syllabus used in the course in which students were

currently enrolled. Our results clearly demonstrated that the syllabus changes we implemented did not have a statistically significant effect on students' MUSIC perceptions, motivation, or perceived ease of course. The median values for the control and experimental (MUSIC) group were not statistically significantly different, and in many cases, were almost identical. Here, we provide some possible explanations for these findings.

First, the changes that we made to the syllabus for the experimental group may not have been significant enough to affect students' motivation-related perceptions. That is, the "treatment" or "dosage" may not have been large enough to have an effect. Although the differences in syllabi statements were consistent with those in Study 1, it is possible that within the context of the entire syllabus these changes were rather insignificant. The course syllabus was quite long and included many different parts as compared to the hypothetical, three-paragraph, partial syllabus provided in Study 1.

Second, the syllabus provided to the control group had been used in prior courses and revised over several years prior to the year it was used in this course. We selected it as an example of a respectable syllabus; it was not intended to be an example of a poorly-written syllabus. The fact that the median scores on the MUSIC perceptions for the control group ranged from 5.1 to 6.0 indicates that we achieved a ceiling effect in which students' responses were near the upper-end of the scale. In fact, it was impossible to improve on students' median usefulness score for Survey 1 in the control group because it was already at the highest value of 6.0. As a result, there was little (or no) room for the experimental group to improve on the control group's scores for each of the MUSIC scales. These high scores do not appear to be the result of an easy course because students rated the course as *somewhat easy*, as opposed to *easy* or *very easy*.

It may be the case that when the syllabus language is less supportive of students' motivation-related perceptions, it is possible to make changes in the syllabus that could increase students' motivation-related perceptions. Future research could examine whether there is a threshold at which syllabi changes can have a positive effect on students' motivation-related perceptions. For example, it is possible that once students rate the syllabus at a certain level, additional changes to the syllabus do not have a significant effect on students' perceptions.

Third, our study design did not allow us to determine whether certain aspects of the syllabus had positive effects on students' perceptions and others had negative effects. Or, if some

Table 4. Median, Range, and Wilcoxon Rank-Sum Test Results

Variable	Control		Experimental		z	p	Effect size r
	Mdn	Range	Mdn	Range			
Survey 1							
Empowerment	5.3	2.3	5.0	2.0	1.491	.136	.245
Usefulness	6.0	0.8	6.0	1.3	.487	.626	.081
Success	5.5	1.8	5.3	1.8	.571	.568	.094
Interest	5.1	2.3	5.0	1.8	.062	.951	.010
Caring	5.3	1.8	5.5	1.3	.927	.354	.152
Motivation	99.0	17.0	100.0	20.0	1.002	.316	.165
Ease	4.0	3.0	4.0	2.0	.237	.813	.039
Survey 2							
Empowerment	5.0	2.3	5.0	2.8	1.204	.229	.198
Usefulness	5.9	1.0	5.8	1.5	.794	.427	.130
Success	5.6	1.3	5.3	2.5	1.223	.221	.201
Interest	5.5	2.0	5.0	2.0	1.134	.257	.186
Caring	5.9	1.3	5.8	1.3	.192	.848	.032
Motivation	96.0	10.0	95.0	20.0	.269	.788	.044
Ease	4.0	4.0	4.0	3.0	.377	.706	.062

Note. $n = 16$ for control group, $n = 21$ for experimental group.

syllabus aspects had positive effects on some MUSIC perceptions and negative effects on others, as was the case for the attendance policy in Study 1 (when attendance was not required, students rated empowerment higher and caring lower than when it was required). Relatedly, it is impossible for researchers to determine how students weigh each aspect of a syllabus or if they weigh aspects consciously or subconsciously. Perhaps students view syllabi more holistically and respond to questions about their motivation-related perceptions based on unconscious perceptions. That is, they may not even be able to accurately explain why they rate a MUSIC perception a certain way, but are somehow combining several factors in their minds to generate an overall response to the MUSIC scale items.

Fourth, it is possible that students' motivation-related perceptions are primarily affected by one or only a few factors that were not manipulated in this study. For instance, the types of assignments (e.g., written, multiple-choice quizzes) may have a significant effect on students' perceptions. As an example, a student who believes that they are not a good test taker may have low perceptions of success in a course that requires students to complete many tests. In this case, language changes to the syllabus may not have enough of an effect on students' motivation-related perceptions to overcome their beliefs about being a bad test taker. Further research is needed to understand which aspects of a syllabus have the most impact on students' motivation-related perceptions.

Fifth, it is possible that other aspects of the syllabus (besides language and organization of the syllabus) could lead to increased changes in students' motivation-related perceptions. Other studies that have manipulated syllabi in real courses have found that students exposed to a visual syllabus retained more information in the syllabus than those exposed to a traditional text-only syllabus (Yarosh, 2021). An infographic syllabus was perceived as easier to use, more interesting, and more engaging. It also motivated students to read the syllabus more completely and made them feel less anxious about the course and more confident in fulfilling the course requirements (Kaur, 2021). Future studies could examine if incorporating these aspects of a visual syllabus could also lead to other changes in students' MUSIC perceptions.

LIMITATIONS

One of the limitations of this study was its small sample size. Another limitation was that the course used in Study 2 was directly relevant to students' future career plans. It would be useful to conduct a similar study in a course in which students did not believe that the content was very useful and a course in which students were less motivated to engage in the class. Third, we did not manipulate all aspects of a syllabus, such as the types of assignments. In the future researchers could examine how changes to types of assignments (e.g., multiple-choice quizzes versus written essays) could affect students' motivation-related perceptions.

IMPLICATIONS AND CONCLUSION

The results from Study 1 demonstrated that, in a hypothetical situation, students' motivation-related perceptions can vary when they respond to different versions of syllabi statements. However, we were not able to replicate these results by modifying a "real" syllabus used for a "real" course. One of the reasons for our findings might be that we achieved a ceiling effect for students'

perceptions in the control group. This limitation could be overcome by replicating this study using a syllabus that students rated lower with respect to their MUSIC perceptions.

An implication for instructors is that although language changes and minor organizational changes to syllabi did not increase students' motivation-related perceptions, they did not lower them. Therefore, it is not harmful to include these types of language changes and it is probably reasonable to do so until more research evidence is generated to support or refute the use of these types of language and organizational changes to syllabi.

An implication for researchers is that more studies need to be conducted using students enrolled in real courses. Studies are needed to examine how both qualitative and quantitative changes affect students' perceptions. That is, what *types* of syllabus changes are most effective (qualitative changes), and *how many* changes are needed to affect students' perceptions (quantitative changes)?

Study 2 demonstrated the practical difficulties in implementing studies designed to detect how changes in syllabi affect students' perceptions. As examples, it is unethical to develop a "bad" syllabus for a real course even though manipulating syllabi in this manner would allow for many different types of comparison research studies. In addition, it is difficult, if not impossible, for researchers to determine how any specific aspects of a syllabus affect specific student perceptions when the syllabus is several pages long and includes many different language and structural features.

Finally, although increasing students' MUSIC perceptions can lead to a more positive motivational climate (Jones et al., 2022), a positive motivational climate is not always associated with higher learning outcomes (Carpenter et al., 2020). Therefore, instructors must consider the recommendations in this study in combination with effective learning principles and knowledge of their students. For example, if important concepts are covered during class and most students do not attend class (because it is at an inconvenient time or location), then it may be beneficial to implement an attendance policy. However, if students are advanced graduate students who are eager to learn the course content, then an attendance policy may not improve their learning and may have a slightly negative effect on the motivational climate. These examples demonstrate how instructors must balance the science of teaching with their practical knowledge of students and the context of their course.

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REFERENCES

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Carpenter, S. K., Witherby, A. E., & Tauber, S. K. (2020). On students' (mis)judgments of learning and teaching effectiveness. *Journal of Applied Research in Memory and Cognition*, 9, 137–151.
- Cullen, R., & Harris, M. (2009). Assessing learner-centredness through course syllabi. *Assessment & Evaluation in Higher Education*, 34(1), 115–125.
- Dunlosky, J., & Lipko, A. R. (2007). Metacomprehension: A brief history and how to improve its accuracy. *Current Directions in Psychological Science*, 16, 228–232.

- Eccles, J. S., & Wigfield, A. (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology, 61*, 1-13. <https://doi.org/10.1016/j.cedpsych.2020.101859>
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step*. Allyn & Bacon.
- Harnish, R. J., & Bridges, K. R. (2011). Effect of syllabus tone: Students' perceptions of instructor and course. *Social Psychology of Education, 14*(3), 319-330. <https://doi.org/10.1007/s11218-011-9152-4>
- Hulleman, C. S., Kosovich, J. J., Barron, K. E., & Daniel, D. B. (2017). Making connections: Replicating and extending the utility value intervention in the classroom. *Journal of Educational Psychology, 109*(3), 387-404. <https://doi.org/10.1037/edu0000146>
- Jones, B. D. (2009). Motivating students to engage in learning: The MUSIC Model of Academic Motivation. *International Journal of Teaching and Learning in Higher Education, 21*(2), 272-285. <http://www.isetl.org/ijtlhe/>
- Jones, B. D. (2010). An examination of motivation model components in face-to-face and online instruction. *Electronic Journal of Research in Educational Psychology, 8*(3), 915-944. <http://www.investigacion-psicopedagogica.org/revista/new/english/index.php?n=22>
- Jones, B. D. (2012/2022). *User guide for assessing the components of the MUSIC® Model of Motivation*. <http://www.theMUSIC-model.com>
- Jones, B. D. (2018). *Motivating students by design: Practical strategies for professors* (2nd ed.). CreateSpace. <https://vtechworks.lib.vt.edu/handle/10919/102728>
- Jones, B. D. (2019). Testing the MUSIC Model of Motivation Theory: Relationships between students' perceptions, engagement, and overall ratings. *The Canadian Journal for the Scholarship of Teaching and Learning, 10*(3), 1-15. <https://doi.org/10.5206/cjsotl-rcacea.2019.3.9471>
- Jones, B. D. (2020). Motivating and engaging students using educational technologies. In M. J. Bishop, E. Boling, J. Elen, & V. Svihla. (Eds.), *Handbook of Research in Educational Communications and Technology: Learning Design* (5th ed., pp. 9-35). Springer. https://doi.org/10.1007/978-3-030-36119-8_2
- Jones, B. D., Krost, K., & Jones, M. W. (2021). Relationships between students' course perceptions, effort, and achievement in an online course. *Computers and Education Open, 2*, Article 100051. <https://doi.org/10.1016/j.caeo.2021.100051>
- Jones, B. D., Miyazaki, Y., Li, M., & Biscotte, S. (2022). Motivational climate predicts student evaluations of teaching: Relationships between students' course perceptions, ease of course, and evaluations of teaching. *AERA Open, 8*(1), 1-17. <https://journals.sagepub.com/doi/10.1177/23328584211073167>
- Jones, B. D., & Skaggs, G. E. (2016). Measuring students' motivation: Validity evidence for the MUSIC Model of Academic Motivation Inventory. *International Journal for the Scholarship of Teaching and Learning, 10*(1). <http://digitalcommons.georgiasouthern.edu/ij-sotl/vol10/iss1/7>
- Kaur, A. W. (2021). "Dope syllabus": Student impressions of an infographic-style visual syllabus. *International Journal for the Scholarship of Teaching & Learning, 15*(2), Article 6. <https://digitalcommons.georgiasouthern.edu/ij-sotl/vol15/iss2/6/>
- Ludy, M.-J., Brackenbury, T., Folkins, J. W., Peet, S. H., Langendorfer, S. J., & Beining, K. (2016). Student impressions of syllabus design: Engaging versus contractual syllabus. *International Journal for the Scholarship of Teaching and Learning, 10*(2), Article 6. <https://digitalcommons.georgiasouthern.edu/ij-sotl/vol10/iss2/6/>
- McGinley, J., & Jones, B. D. (2014). A brief instructional intervention to increase students' motivation on the first day of class. *Teaching of Psychology, 41*(2), 158-162. <https://doi.org/10.1177/0098628314530350>
- Palmer, M. S., Wheeler, L. B., & Aneece, I. (2016). Does the document matter? The evolving role of syllabi in higher education. *Change: The Magazine of Higher Learning, 48*(4), 36-47. <https://doi.org/10.1080/00091383.2016.1198186>
- Renninger, K. A., & Hidi, S. E. (2015). *The power of interest for motivation and engagement*. Routledge. <https://doi.org/10.4324/9781315771045>
- Richmond, A. S., Slattery, J. M., Mitchell, N., Morgan, R. K., & Becknell, J. (2016). Can a learner-centered syllabus change students' perceptions of student-professor rapport and master teacher behaviors? *Scholarship of Teaching and Learning in Psychology, 2*(3), 159-168.
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology, 61*, 1-11. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Slattery, J. M., & Carlson, J. F. (2005). Preparing an effective syllabus: Current best practices. *College Teaching, 53*(4), 159-164. <https://doi.org/10.3200/CTCH.53.4.159-164>
- Weiner, B. (2000). Intrapersonal and interpersonal theories of motivation from an attributional perspective. *Educational Psychology Review, 12*(1), 1-14.
- Wentzel, K. (1999). Social-motivational processes and interpersonal relationships: Implications for understanding students' academic success. *Journal of Educational Psychology, 91*, 76-97. <https://doi.org/10.1037/0022-0663.91.1.76>
- Wentzel, K. R., & Miele, D. B. (Eds.). (2016). *Handbook of motivation at school* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315773384>
- Wheeler, L. B., Palmer, M., & Aneece, I. (2019). Students' perceptions of course syllabi: The role of syllabi in motivating students. *International Journal for the Scholarship of Teaching and Learning, 13*(3), Article 7. <https://doi.org/10.20429/ij-sotl.2019.130307>
- Wilkins, J. L. M., Jones, B. D., & Rakes, L. (2021). Students' class perceptions and ratings of instruction: Variability across undergraduate mathematics courses. *Frontiers in Psychology, 12*, Article 576282. <https://doi.org/10.3389/fpsyg.2021.576282>
- Yarosh, J. H. (2021). The syllabus reconstructed: An analysis of traditional and visual syllabi for information retention and inclusiveness. *Teaching Sociology, 49*(2), 173-183.
- Young-Jones, A., Levesque, C., Fursa, S., & McCain, J. (2021). Autonomy-supportive language in the syllabus: Supporting students from the first day. *Teaching in Higher Education, 26*(4), 541-556. <https://doi.org/10.1080/13562517.2019.1661375>