First Impressions Matter! An Experiment Comparing Autonomous and Controlling Language in Course Syllabi

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The course syllabus serves as an important first contact between professors and students in university courses and the language used in a syllabus can influence students' first impressions of the professor and expectations for the course. Existing research in Self-Determination Theory has shown that autonomy-supportive language leads to increased positive outcomes for students compared to controlling language. The objective of the present studies was to compare an autonomy-supportive with a controlling syllabus to see how students felt when reading the syllabus (Study 1), and how the syllabus related to their impressions of the professor, reported motivation, and expectations for the course (Study 2). The results of Study 1 supported that the students reported more positive feelings when viewing the autonomy-supportive syllabus and perceived the autonomy-supportive syllabus was more autonomous and the controlling one was more controlling. In Study 2, the results showed that students who viewed the autonomy-supportive syllabus reported more positive impressions of the professor (more need-supportive, better quality), were more likely to have positive expectations about the course, and more likely to have a self-determined motivation towards attending class compared to students who viewed the controlling syllabus. Overall, the results from both studies supported that there are benefits to using autonomy-supportive language in a syllabus with few side effects. Professors could benefit by making a good first impression upon students by integrating autonomy-supportive language into their syllabus.

Ask any college or university-level student and they will tell you that reviewing the syllabus is an important and essential ritual on the first day of a course. The syllabus is often described as "a document by which faculty members define learning outcomes for students and the methods by which those outcomes will be realized" (Habanek, 2005, p. 62). Students usually await the syllabus with anticipation since it provides a clear picture of what they will be expected to accomplish during the course (Parkes & Harris, 2002; Slattery & Carlson, 2005), which helps reduce uncertainty and ambiguity (Danielson, 1995). The syllabus serves as a communication tool since it is one of the first points of contact between students and the professor (Richmann et al., 2020). It has many functions including documenting pedagogical practices, promoting student success, shaping the class climate, and outlining expectations and obligations (Sulik & Keys, 2014). The way that the syllabus is constructed also sets the tone for the course (Richmond, et al., 2016) and gives students an opportunity to form a first impression of their professor. Specifically, using the syllabus, students make judgements about how friendly (Nusbaum et al., 2021), effective (Jenkins et al., 2014), or competent (Saville et al., 2010) they perceive the professor to be. In online learning environments, the syllabus is usually the first and main point of contact for students and plays a key role in impression formation for students since they may not have the opportunity to interact directly with the professor (Kim & Ekachai, 2020). Given the importance of the syllabus as a communication tool and its' impact on student engagement, there has been significant research looking at the best practices of syllabus design.

SYLLABUS DESIGN

In a study examining the layout and format of syllabi, Motameni et al. (2015) found that students make inferences about the professors' personality or demeanor based on the layout and overall look and feel of the syllabus. Students prefer a comprehensive syllabus with personal touches that use visual cues to map out the information and rate professors who use these cues as more creative, approachable, and kind (e.g., Ludy et al., 2016; Nusbaum et al., 2021). There are mixed results in the research examining the impact of the length and level of detail in the syllabus. Some studies, for example, have shown that students viewing a detailed, longer syllabus report that their professor is more competent (e.g., Saville et al., 2010), while others have shown that students prefer viewing a shorter, more succinct syllabus (e.g., Smith & Razzouk, 1993) which promotes more help-seeking behavior (Gurung & Galardi, 2021). None of these preferences, however, seem to vary depending upon students' background characteristics (e.g., gender, ethnicity; Motameni et al., 2015). Jenkins and colleagues (2014) believe the importance may not be in the length of the syllabus, but in the type of content. Specifically, they examined the role of restrictive boundary details, which relate to having clear policies and expectations, and compared to additional course content detail and found that including restrictive boundary detail positively impacted students' perceived competence and credibility of their professors.

Examining the content of syllabi more closely, a number of studies have compared learner-centered and content-centered syllabi to see how it relates to students' impressions of their professors. Content-focused syllabi are traditional, focused on the specific content of the course, and heavy on course policy and rules (Neaderhiser, 2016). In contrast, learner-focused syllabi include strong learning objectives, authentic assessment descriptions, a positive motivating tone, and a detailed course schedule (Palmer et al., 2014). The results consistently show that students perceive the professors of learner-focused syllabi as more creative, caring, happy, receptive, approachable, and enthusiastic, and are

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more likely to ask for help (e.g., Richmond et al., 2016; Wheeler et al., 2019).

The tone and language used within a syllabus serve as important communication tools and a number of studies have explored how the tone impacts student impressions of the professor and intended behaviors in the course. Harnish and Bridges (2011) compared students' impressions of their professor after reading a syllabus with a warm and friendly tone with a more negative one. Students who read the warm and friendly syllabus that included positive language, a rationale for assignments, personal experiences, humor, compassion, and enthusiasm had more positive impressions of their professor. Waggoner Denton and Veloso (2018) replicated the results while controlling for the professors' gender and found that professor gender had no effect on perceived friendliness for the students. Additionally, syllabi that include supportive statements or use a warm tone promote higher intentions to seek help during the course (Gurung & Galardi, 2021), regardless of the age of the students (Perrine et al., 1995).

Overall, the findings from this research continue to show that students do make inferences or judgements about the professor, or the course based upon what they see in the syllabus, supporting that a syllabus really does contribute to first impressions. Although this research has identified many practical and important strategies and best practices for improving syllabi to promote better student intentions and expectations, there is a lack of over-arching theoretical framework to explain which strategies to use and when, how well these align to the professors' behaviors in class, and how we can expect the strategies to relate to student outcomes within the course. One potential theoretical framework that could unify the existing research examining best practices in syllabus design with best practices for promoting student motivation and positive outcomes in the classroom is Self-Determination Theory (SDT; Ryan & Deci, 2017). SDT is a leading theory of human motivation that has been widely used in education settings.

SELF-DETERMINATION IN EDUCATION

According to SDT, motivation is not measured in terms of quantity, but quality. In an education setting, students who experience a higher-quality motivation regulate their behavior for more self-determined reasons. That is, students with self-determined motives study or learn material because they enjoy it (intrinsic regulation), value learning (integrated regulation), or think it is important (identified regulation; Deci & Ryan, 1985). On the other hand, students with non-self-determined motives would regulate their behavior because they do not want to disappoint others (introjected regulation), they feel like they have to (extrinsic regulation), or they are not sure and simply going through the motions (amotivated regulation; Deci & Ryan, 2008). Extensive research has shown that students who experience self-determined motivation are more likely to experience positive outcomes such as persistence (Lavigne et al., 2007), better learning (Chen & Jang, 2010), more help-seeking behaviors (Marchand & Skinner, 2007), and increased enjoyment (Jang et al., 2009). Students with non-self-determined motivation are more likely to experience negative outcomes like dropout (Jeno et al., 2018), procrastination (Cavusoglu & Karatas, 2015), or anxiety (Black & Deci, 2000). SDT stipulates that self-determined motivation in a given life domain requires that our basic psychological needs for autonomy (to have choice), competence (to feel capable), and relatedness (to have social support) must be met. Our social environments, as well as the people within them, can either promote need satisfaction and self-determination motivation, or promote need frustration and non-self-determined motivation. In the context of education, teachers and professors are in positions of authority and play an essential role in creating the learning environment through their use of autonomy-supportive or controlling interpersonal behavior (Reeve et al., 1999).

Autonomy-supportive interpersonal behaviors include verbal and non-verbal behaviors that support other people's choices, provide a rationale for rules, acknowledge others' perspectives, and allow others to take initiative (for a detailed review see Reeve, 2016). Alternatively, controlling behaviors are defined as verbal or non-verbal behaviors that pressure others to behave in certain ways, impose views or feelings, ignore others' interests or perspectives, or use excessive personal control (e.g., Bartholomew et al., 2009). A significant body of research examining teachers, instructors, and professors has consistently shown that autonomy-supportive behaviors promote self-determined motivation and better outcomes for students (Reeve et al., 2004), whereas controlling interpersonal behaviors lead to non-self-determined motivation (e.g., Hein et al., 2015). Recent studies have found that when students perceive their instructor to be autonomy-supportive early in the term, this predicts increased effort and decreased procrastination later in the term after controlling for perceived autonomy-support during the course (Mouratidis et al., 2018). This suggests that first impressions of autonomy-support may increase motivation quality above and beyond what would be expected from support during the course. Given the syllabus often provides the first impression of the professor, there is an opportunity to use the syllabus to start creating an autonomy-supportive learning environment (Vansteenkiste et al., 2004).

A recent study by Young-Jones and colleagues (2021) was the first to explore whether autonomy-supportive versus controlling language in the course syllabus was related to different outcomes for a sample of primarily white and women students. The results supported the students who viewed an autonomy-supportive syllabus were more likely to perceive the hypothetical professor as autonomy-supportive and had higher intentions to take the course than students who saw the controlling syllabus. These students also reported increased autonomy and competence satisfaction as well as increased intrinsic motivation. The results provided important preliminary evidence supporting that autonomy-supportive syllabi are advantageous compared to controlling syllabi, and the present studies will aim to build upon these findings.

PRESENT STUDIES

The overall goal of the present studies is to determine whether students perceive autonomy-supportive syllabi differently than controlling syllabi, and whether an autonomy-supportive syllabus predicts increased reported need-supportive perceptions of the professor, self-determined motivation, and positive feelings about the course compared to a controlling syllabus. The primary objective of Study 1 is to understand whether students have different feelings about an autonomy-supportive syllabus compared to a controlling syllabus. The secondary objective is to perform a manipulation check in order to confirm that the syllabi were perceived as either autonomy-supportive or controlling by the

students before they were incorporated into the testing in Study 2. Next, using a mixed-method experimental design, the primary objective of Study 2 is to examine whether an autonomy-supportive syllabus predicts improved perceptions of the professor, increased students' self-determined motivation and decreased non-self-determined motivation, as well as increased positive feelings about the course compared to a controlling syllabus. The secondary objective is to explore how the syllabus relates to students' feelings and hypothesized behavior during scenarios that would typically occur during the course.

These studies will build upon Young-Jones and colleagues' (2021) findings in the following ways. First, the manipulation check in Study 1 will help confirm that the syllabi are in fact autonomy-supportive or controlling, thus increasing confidence that the results in Study 2 are due to meaningful differences in the syllabi and not extraneous factors (e.g., Kim & Ekachai, 2020). Next, both studies will include more diverse groups of students with better representation among different ethnicities and genders. This is important as although previous research has found that there may not be differences in how the syllabus is perceived based on these factors (Motameni et al., 2015), there is a need to gather more evidence through additional studies. Next, in Study 2, we explored the relationship between the syllabi and students' reported self-determined motivation and non-self-determined motivation, and whether they perceived the professor to be both need-supportive and need-thwarting. Adding the negative pathways (e.g., perceptions of need-thwarting and reported non-self-determined motivation) will allow for us to expand upon Young-Jones' (2021) work by linking the results more broadly to expected constructs within SDT. Finally, the mixed-methods approach in Study 2 will allow students to elaborate on their perceptions and intended behavior during the course based upon the syllabus, providing a richer understanding of the ways the syllabi impact students' first impressions. This mixed methods approach will allow us to draw conclusions beyond what a uniquely quantitative or qualitative design would allow (Ivankova & Wingo, 2018).

Study 1

The aim of Study 1 is to understand students' perceptions of autonomy-supportive and controlling syllabi for a hypothetical course, as well as confirm the syllabi created for the present research are rated as either autonomy-supportive or controlling by students.

Table 1. **Study 1: Descriptive Statistics Demographic Variables by Condition**

Demographic Variable	Autonomy Supportive Syllabus	Controlling Syllabus
N	14	16
Gender		
Women	9	9
Men	5	6
Race/Ethnicity		
Arabic	1	3
Asian	1	0
Black/African American	2	0
Caucasian	7	7
Hispanic/Latino	2	0
Other	1	3
Year of Study		
1st year	8	10
2nd year	3	3
3rd year	2	0
4th year	1	0
Other	0	1
Enrollment Status		
Full-time	12	11
Part-time	2	2
Faculty		
Arts	1	1
Health Sciences	3	4
Management	1	0
Science	3	4
Social Sciences	6	1

Note: Some participants did not answer some demographic questions; however, their data were still used in the analyses. Chi-square analyses were performed to on all demographic variables (Gender, Ethnicity, Year of Study, Enrollment Status, and Faculty) to confirm there were no differences by syllabus condition. The results supported that none of the results were significant ($p > .05$). A Mann Whitney U test analysis confirmed there were no significant differences between groups for participants' ages ($p = .179$) (see Table 2 for ages).

Table 2. **Study 1: Descriptive Statistics Continuous Variables by Condition**

Variable	Autonomy Supportive Syllabus								Controlling Syllabus						
	N	*M*	*SD*	*Min*	*Max*	*Skew*	*Kurt*		*N*	*M*	*SD*	*Min*	*Max*	*Skew*	*Kurt*
Age	14	22.79	9.46	18	46	2.27	3.75		14	18.86	1.03	18	21	0.82	-0.54
Rapport	14	5.26	1.30	2.67	7	-0.33	-0.55		16	3.22	1.14	1.33	4.67	-0.47	-1.09
Engagement	14	4.19	0.95	2.67	6.33	0.34	0.82		16	2.69	0.87	1	4.33	-0.08	0.17
Autonomy	14	5.04	0.93	3.50	6.75	0.13	-0.61		16	2.67	1.04	1.25	4.76	0.45	-0.62
Approachability	14	4.68	1.40	3	7	0.56	-0.89		16	2.66	1.08	1	4.50	0.32	-1.19
Fairness	14	5.39	0.86	3.50	7	-0.25	1.11		16	4.16	1.52	1	6	-0.92	-0.52
Informativeness	14	4.71	1.73	2	7	0.10	-1.49		16	5.75	1.44	2	7	-1.19	1.56
Focus	14	5	1.71	2	7	-0.65	-0.55		15	3.93	1.49	2	6	-0.02	-1.20
Conventionality	14	3.86	1.46	2	7	0.63	0.39		16	4.63	1.63	2	7	0.17	-1.18

**Data from outliers was used in the analyses.*

Methods

Participants

A sample of 30 undergraduate students (n_{women} = 18, n_{men} = 11) aged 18-46 (*M* = 20.82, *SD* = 6.90) took part in this study. They identified as Arabic (*n* = 4, 13.79%), Asian (*n* = 1, 3.45%), Black/African American (*n* = 2, 6.90%), Caucasian (*n* = 14, 48.28%), Hispanic/Latino (*n* = 2, 6.90%), and Other (*n* = 4, 13.79%). The students were selected from a research participation pool, and they were compensated with course credit for their participation. The majority were registered as full-time students (*n* = 23, 79.31%) and were in the 1st year of their program (*n* = 18, 62.07%). Students were registered in the Faculties of Health Sciences, Science, Social Sciences (*n* = 7, 24.14%-each), Arts (*n* = 2, 6.90%), and Management (*n* = 1, 3.45%). Participation was voluntary and informed consent was provided before taking part in the study. See Tables 1 and 2 for descriptive statistics of the sample.

Syllabus Design

Two syllabi were created for a hypothetical course entitled "Introduction to Human Sciences". The syllabi were identical other than some adjustments to the language to make it either autonomy-supportive or controlling (see Table 3 for an overview). To control for any potential extraneous factors, there was no assigned professor listed on either syllabus or a proposed course timetable. Although previous research (e.g., Waggoner Denton & Veloso, 2018) has shown that these factors do not necessarily impact students' perceptions, we did not want to introduce any potential confound variables to the study design. Additionally, both syllabi were created with the current best practices in syllabus design in mind. Specifically, the syllabus was intentionally short and focused (e.g., Gurung & Galardi, 2021) and, although students enjoy graphics or personal touches as they give insight to the professor's personality (e.g., Nusbaum et al., 2021), none were included in order to preserve the neutrality/anonymity of the course professor. In terms of content, the syllabi, although brief, employed a use of learner-focused strategies including learning objectives, and assessment descriptions (Sulik & Keys, 2014); however, a detailed course schedule was not included so that the focus of participants could be kept on the key sections in which the language was being manipulated. Finally, other than the sections that were modified to be either autonomy-supportive or controlling, the remaining text used neutral language. A copy of both syllabi is available in the supplementary material.

Procedures

Students were randomized to view either the autonomy supportive (*n* = 19) or controlling (*n* = 19) syllabus, and then responded to a series of questions about the syllabus. Some data was excluded from the analyses due to incomplete answers (autonomy supportive syllabus *n* = 4; controlling syllabus *n* = 1) and students who participated in the study more than once (autonomy supportive syllabus *n* = 1; controlling syllabus *n* = 1). For students who participated more than once, their first survey was used in data analysis. A total of 14 students reported on the autonomy supportive syllabus and 16 on the controlling syllabus.

Measures

After viewing either an autonomy supportive or controlling syllabus, students were presented with a list of 17 adjectives of opposite meaning (e.g., from "impersonal" to "relational") to assess their feelings about the syllabus. The adjectives corresponded to constructs that have already been studied in the context of best practices for syllabus design (e.g., engagement – Howton et al., 2020; fairness- Frey et al., 2021) and included aspects of approachability (e.g., pressuring/laid-back and formal/casual), autonomy (e.g., controlling/self-directed, inflexible/flexible, closed/open-minded, and restricting/choice providing), conventionality (conventional/unconventional), engagement (e.g., dull/stimulating, boring/interesting, and serious/funny), fairness (unfair/fair and distrustful/trustful), focus (content/student focus), informativeness (uninformative/informative) and rapport (e.g., impersonal/personal, unfriendly/friendly, and uncaring/caring). Additionally, questions related to autonomy were also fairness (unfair/fair and distrustful/trustful), focus (content/student focus), informativeness (uninformative/informative), and rapport (e.g., impersonal/personal, unfriendly/friendly, and uncaring/caring). Additionally, questions related to autonomy were also used as indicators for the manipulation check to confirm that the students perceiving the autonomy-supportive syllabus as high on autonomy and the controlling one as low on autonomy. Finally, Cronbach's alpha was calculated for each construct that had more than 2 items and supported that the subscales achieved excellent internal consistency. A mean score was calculated for each subscale approachability: (*M* = 3.60, *SD* = 1.59; autonomy: α = .918, *M* = 3.78, *SD* = 1.54; conventionality: *M* = 3.60, *SD* = 1.55; engagement: α = .765, *M* = 3.39, *SD* = 1.18; fairness: *M* = 4.73, *SD* = 1.39; focus: *M* = 4.45, *SD* = 1.66; informativeness: *M* = 5.27, *SD* = 1.64; and rapport: α = .791, *M* = 4.18, *SD* = 1.58) and was used for the present analyses as indicators of students' feelings and perceptions of the syllabus.

Analyses

First, a series of chi-square and t-test analyses were performed to confirm whether the randomization was effective and identify any potential group differences on participants' demographic characteristics (age, gender, ethnicity, year of study, enrollment status, and faculty). Then, Welch's t-test were conducted to examine differences between students who viewed the autonomy-supportive versus controlling syllabus in their perceived approachability, autonomy, conventionality, engagement, fairness, focus, informativeness, and rapport within the syllabi.

Results

The preliminary analyses supported that there were no differences between groups (autonomy-supportive and controlling syllabus) on any of the key demographic variables (see note in Table 1). Next, the Welch's t-test results suggested there was a significant statistical difference in feelings of approachability, autonomy, engagement, fairness, and rapport between students (see Table 4 for detailed results). In the case of approachability, students who read the autonomy-supportive syllabus believed the syllabus was more laid-back and casual (*M* = 4.68; *SD* = 1.40) compared to students who read the controlling syllabus (*M* = 2.66; *SD* = 1.08). The largest observed difference between groups was in feelings of autonomy (Cohen's *d* = 2.33) where students who viewed the autonomy-supportive syllabus perceived it as more self-directed, flexible, open-minded, and choice providing (*M* = 5.04; *SD* = 0.93) than those students who read the controlling syllabus (*M* = 2.67; *SD* = 1.04). In terms of engagement, students who read the autonomy-supportive syllabus (*M* = 4.19; *SD* = 0.95) perceived it as more stimulating, interesting, and funny than those who read

Table 3. **Examples of Language Adjustments per Syllabus**

Autonomy Supportive Behaviors*	Behaviors in the Syllabus	Example	Section in the Syllabus	Controlling Behaviors*	Behaviors in the Syllabus	Example	Section in the Syllabus
Provide choice within specific rules and limits	Students having a choice of an essay topic.	"Essay (topic of your choosing) – 25%"	Evaluation	Controlling feedback (Instruction, criticism, praise)	Providing instructions that convey expectations towards students.	"Students will learn about […]"	Course Description
Provide a rationale for tasks and limits	Setting a boundary regarding answering emails.	"I reserve the right to refrain from answering an email that uses disrespectful language"	Emails			"This course covers 11 chapters from the required textbook; these chapters must be covered throughout the semester."	Course Format
	Providing a limit for the reasons of absence that will be accepted.	"[…] please provide me with any legitimate documentation as justification […]"	Absence			"Students are expected to complete the readings BEFORE each class."	Course Format
	Explaining why it would be important for students to attend class.	"I believe it is important to attend every class as the information covered will help you during the term."	Course Format			"Emails will only be answered during weekly office hours. No tutoring will be offered via email. Since most emails have questions that concern many students, these questions should be raised in class."	Policy on Emails
Acknowledge the other person's feelings and perspectives	Acknowledging that students may want to use their laptops.	"I understand that you may want to use a laptop in class, and I have no problem with that."	Laptop Use	Excessive personal control (Imposed values/opinion, controlling statements and vocalizations, surveillance, imposed goals, over-intrusive behaviors)	Surveillance	"Attendance will be taken at the beginning of each class."	Course Format
	Acknowledging that students can face unexpected situations.	"I understand that we all sometimes face unexpected situations."	Absence		Providing controlling statements and vocalizations. Imposing goals.	"More than three unexcused absences will prevent students from taking the final exam."	Course Format
	Students having the choice to address their concerns and their feelings are validated.	"If you do not feel comfortable addressing and discussing your concern with me in office hours, the University offers many incredible services for any of your needs."	University Services		Imposing values/ opinions while ignoring students' perspectives.	"Essay (topic will be assigned by professor) – 25%	Evaluation
Provide with opportunities for initiative taking and independent work	Enticing the students to take the initiative in discussions.	"I expect it to be interactive and to offer you an opportunity to reflect critically and discuss the issues that arise from the assigned readings as well as your own ideas."	Course Format		Surveillance. Over-intrusive behaviors.	"No absences will be tolerated for evaluations without a valid reason."	Absences
Provide non-controlling behaviors (Avoid overt control, avoid criticisms and controlling statements, avoid tangible rewards for interesting tasks)	Avoiding overt control and controlling statements.	"I recommend visiting these to ask pertinent questions, […]"	Office Hours		Controlling statements and vocalizations.	"Reasons such as travel, employment and misreading the examination schedule will not be accepted."	Absence
		Using "Our", "us", "We", and "our"	Course Description	Intimidation behaviors (Verbal abuse, yelling, physical punishment, personal attacks, humiliating and belittling)	Conveying intimidation behaviors	"Students will be asked to leave the class if they are using their laptop for anything other than note taking."	Laptop Use
		"I encourage you to read each chapter before class, as this will make the lecture much more interesting"	Course Format			"Repeated or particularly egregious disregard of this laptop etiquette request will result in a referral of the matter to the Vice Dean for appropriate sanction."	Laptop Use
					Using threats of punishment.	"If you must miss an evaluation without explanation, a penalty will be imposed."	Absence

**Autonomy-supportive behaviors adapted from Mageau & Vallerand (2003) and Controlling behaviors from Bartholomew et al. (2009).*

Table 4. Results T-Tests on Perceptions as Function of Syllabus Condition								
Perception	**Autonomy Supportive Syllabus**		**Controlling Syllabus**		***df***	***t***	***p***	**Cohen's *d***
	M	***SD***	***M***	***SD***				
Approachability	4.68	1.40	2.66	1.08	24.34	-4.40	<.001	1.56
Autonomy	5.04	0.93	2.67	1.04	27.97	-6.59	<.001	2.33
Conventionality	3.86	1.46	3.38	1.63	27.98	-0.86	.400	0.30
Engagement	4.19	0.95	2.69	0.87	26.69	-4.49	<.001	1.59
Rapport	5.26	1.30	3.23	1.15	26.24	-4.52	<.001	1.60
	Mdn		***Mdn***		***U***		***p***	**Cramer's *V***
Fairness*	5.50		5.00		54.00		.014	.45
Focus*	5.00		4.00		64.50		.072	.33
Informational*	4.00		6.00		71.00		.080	.32
**The assumption normality was violated in these cases, as such, a Mann Whitney U-Test was run instead.*								

the controlling syllabus (*M* = 2.69; *SD* = 0.87). Next, students who read the autonomy-supportive syllabus believed it was fairer and trustworthy (*Mdn* = 5.50; Note: medians compared due to a violation of the assumption of normality) compared to students who read the controlling syllabus (*Mdn* = 5.00). Finally, in terms of rapport, the syllabus was perceived as more personal, friendly, and caring for students who read the autonomy-supportive syllabus (*M* = 5.26; *SD* = 1.30) than for those who read the controlling syllabus (*M* = 3.23; *SD* = 1.15). In contrast, the results suggested that there were no significant differences in how both groups of students perceived the conventionality, focus, and informativeness of the two syllabi.

Discussion

Overall, the findings of this study support that the two syllabi elicit different feelings for students. These results are consistent with previous research supporting that the language used in the syllabus impacts how students feel about the syllabus (e.g., Lightner & Benander, 2018). Despite having the same content and information as shown by the non-significant difference on informativeness, students perceived the autonomy-supportive syllabus as having more approachability, autonomy, engagement, fairness, and rapport. These results support existing research in SDT suggesting that autonomy-supportive language promotes positive outcomes for students compared to controlling language (e.g., Furtak & Kunter, 2012; Reeve, 2009).

The large mean difference in perceived autonomy between the two syllabi supports that the autonomy-supportive syllabus is more autonomous and the controlling one is less autonomous. This manipulation check is an essential step needed in order to increase confidence that any observed differences in Study 2 are the result of the syllabi and not extraneous factors (e.g., Benita et al., 2014).

STUDY 2

A mixed-method experimental design was used to compare student outcomes based upon the syllabus they viewed. Students were randomized to view either an autonomy-supportive or controlling syllabus and then invited to report on their perceptions of their professors' need-supportive (e.g., autonomy, competence, and relatedness supportive behavior) and need-thwarting (e.g., controlling, competence-thwarting, and relatedness thwarting behavior), their self-determined and non-self-determined motivation about attending class, as well as their general positive feelings related to sense of belongingness, relevance of the course, and their intended persistence, effort, and engagement. Additionally, the students were invited to respond to open-ended hypothetical questions about how they would behave in different scenarios that occur during a regular semester based upon the syllabus they read.

Methods

Participants

The sample for this study comprised of 236 undergraduate students (n_{women} = 163, n_{men} = 72) who were recruited using the same method as Study 1. A total of 117 students were randomized to the autonomy-supportive syllabus condition and 119 to the controlling syllabus condition. Their ages ranged from 17 to 51 (*M* = 20.05, *SD* = 3.20). They identified as Arabic (*n* = 14, 5.96%), Asian (*n* = 53, 22.55%), Black/African American (*n* = 26, 11.06%), Caucasian (*n* = 103, 43.83%), Hispanic/Latino (*n* = 4, 1.70%), and Other (*n* = 35, 14.89%). Most students were in their 1st (*n* = 101, 42.98%) or 2nd (*n* = 75, 31.91%) year of their program and they belonged primarily to the faculties of Social Sciences (*n* = 82, 35.19%), Science (*n* = 46, 19.74%), or Health Sciences (*n* = 46, 19.74%). In exchange for their participation, students received course credit and gave their informed consent before voluntarily answered the survey. See Tables 5 and 6 for descriptive statistics of the sample and variables by condition.

Procedures

Students were invited to take part in an online questionary about their perceptions of the course and professor, as well as their expected behaviors during the course after reading a sample syllabus. Students were randomized and presented with either an autonomy supportive (*n* = 147) or controlling syllabus (*n* = 138), then invited to complete a series of measures about their perceptions of the professor, the course, and their expected behavior. Like Study 1, some data were excluded from the analysis due to incomplete answers (autonomy supportive condition *n* = 21; controlling condition *n* = 7) and surveys completed twice (autonomy supportive condition *n* = 1; controlling condition *n* = 1). When surveys were completed twice, the first survey was used in data analysis. To screen participants for insufficient effort responding (Bowling et al., 2016), students also answered a few questions verifying their understanding of the content. Students who incorrectly answered half of the questions about their understanding of the syllabus (autonomy supportive condition *n* = 8; controlling condition *n* = 11) were also excluded from the subsequent analyses.

Table 5. **Study 2: Descriptive Statistics Demographic Variables by Condition**

Demographic Variable	Autonomy Supportive Syllabus	Controlling Syllabus
N	117	119
Gender		
Women	80	83
Men	36	36
Race/Ethnicity		
Black/African American	16	10
Arabic	7	7
Asian	28	25
Caucasian	47	56
Hispanic/Latino	3	1
Other	15	20
Year of Study		
1st year	40	61
2nd year	43	32
3rd year	16	18
4th year	13	6
Above 4 years	4	2
Faculty		
Arts	13	8
Engineering	9	10
Health Sciences	21	22
Law	1	0
Management	9	3
Medicine	4	4
Science	19	27
Social Sciences	38	44
Special Student	0	1

Note. Some participants did not answer some demographic questions; however, their data were still used in the analyses. Similar to Study 1, Chi-square analyses reported that the demographic variables of Gender, Race/Ethnicity/Year of Study and Faculty did not have significant differences with syllabus condition (p > .05). T-test results confirmed there were no differences by condition for GPA (p = .124); however, significant differences were found with the variable of age (p = .028) (see Table 6).

Measures

Professor's Interpersonal Behaviors

Students completed the Interpersonal Behaviors Questionnaire (IBQ; Rocchi et al., 2017). Based in SDT, this scale is a 24-item six-factor designed to assess perceptions of the interpersonal behaviors of others. Each factor corresponds with behaviors that either support or thwart the psychological needs of autonomy, competence, and relatedness. For the current study, one item per factor was selected to represent behaviors in the constructs associated with autonomy support-AS ("Give me the freedom to make my own choices in the course"), competence support-CS ("Provide valuable feedback"), relatedness support-RS ("Take the time to get to know me"), controlling/autonomy thwarting-AT ("Impose their opinions on me"), competence thwarting-CT ("Doubt my capacity to succeed in the course"), and relatedness thwarting-RT ("Not care about me"). The participants were asked to indicate to what extent each statement corresponded to their perceptions of the professor after reading the syllabus by using a 7-point Likert scale (1- Strongly disagree, 7-Strongly agree). Higher scores indicated higher reported endorsement of the behaviors. Each indicator was used as a separate variable in this study.

Professor Impressions

Students were given a list of 28 items based on the qualities and behaviors that reflect a master teacher among students (Buskist et al., 2002). In this current study, agreement with each item (e.g., "The professor is accessible" or "The professor cares for the students and encourages them to succeed") was reported using a 7-point Likert scale (1-Strongly disagree, 7-Strongly agree). Reliability analysis supported that the scale achieved excellent internal consistency (α = .965). A mean score was calculated to represent the extent the students agreed with these statements (M = 4.46, SD = 1.10), where higher scores showed a more positive framed impression of the course professor.

Feelings About the Course

Students were presented with a list of items related to thoughts and feelings they might have about the course. Six items in total were used to measure students' sense of belongingness ("I feel that I belong in the course"), relevance ("This course is relevant to my future"), self-sacrifice ("I will work hard and postpone

Table 6. **Study 2: Descriptive Statistics Continuous Variables by Condition**

Variable	Autonomy Supportive Syllabus							Controlling Syllabus						
	N	*M*	*SD*	Min	Max	Skew	Kurt	*N*	*M*	*SD*	Min	Max	Skew	Kurt
Age	117	20.51	4.06	17	51	5.04	32.04	117	19.59	1.93	17	27	1.67	3.37
GPA	108	6.56	1.64	2.00	9.60	-0.43	-0.12	105	6.17	2.02	1	10	-0.19	-0.59
IBQAS	117	4.96	1.18	1	7	-0.76	0.86	119	2.90	1.62	1	7	0.57	-0.60
IBQAT	117	3.41	1.40	1	7	0.40	-0.35	119	4.87	1.41	1	7	-0.80	0.45
IBQCS	117	5.09	1.21	2	7	-0.25	-0.37	119	3.77	1.61	1	7	0.08	-0.79
IBQCT	116	2.50	1.22	1	6	0.63	-0.49	118	3.93	1.42	1	7	-0.19	-0.01
IBQRS	117	3.96	1.42	1	7	-0.20	-0.22	119	2.43	1.49	1	7	0.94	0.13
IBQRT	117	2.97	1.33	1	7	0.41	-0.01	119	4.43	1.76	1	7	-0.32	-0.72
IP	112	5.10	0.72	3.57	7	0.18	-0.25	112	3.82	1.04	1.54	6.68	0.39	0.58
FC	117	4.67	1.05	2	7	-0.06	-0.14	119	3.84	1.15	1	7	-0.14	0.24
SD	117	16.14	3.60	0	21	-1.18	2.66	119	14.76	3.79	3	21	-0.69	0.56
NSD	117	13.78	2.44	0	21	-1.21	8.60	119	13.83	2.45	7	21	0.06	1.30

Note. IBQAS = Interpersonal Behaviors Questionnaire Autonomy Support, IBQAT = Interpersonal Behaviors Questionnaire Autonomy Thwarting, IBQCS = Interpersonal Behaviors Questionnaire Competence Support, IBQCT = Interpersonal Behaviors Questionnaire Competence Thwarting, IBQRS = Interpersonal Behaviors Questionnaire Relatedness Support, IBQRT = Interpersonal Behaviors Questionnaire Relatedness Thwarting, IP = Impressions about the Professor, FC = Feelings about the Course, SD = Self-Determined Motivation, NSD = Non-Self-Determined Motivation.

recreational activities for the sake of this course"), persistence ("I will not be derailed by setbacks in this course), effort ("I will seek new challenges in learning course material"), and engagement ("I will remain engaged over the whole semester"). Students indicated their agreement to each statement using a 7-point Likert scale (1- Strongly disagree, 7-Strongly agree). Reliability analysis supported that the scale achieved good internal consistency (α = .874). A mean score was calculated to represent the extent the students agreed with these statements (M = 4.25, SD = 1.18), where higher scores indicated higher positive feelings about the course.

Motivation to Attend Class

Students' motivation to attend class on a regular basis after reading the syllabus was assessed using the Academic Motivation Scale (AMS; Vallerand et al., 1992), which measures students' motivation according to SDT. This 28-item divided into 7 subscales measures intrinsic motivation, extrinsic motivation, and amotivation. For the purposes of the current study, one item per subscale representing intrinsic regulation (e.g., "For the interest and enjoyment of attending"), integrated regulation (e.g., "Because attending class regularly is in line with who I am as a student"), identified regulation (e.g., "Because attending class is a way to reach my personal goals"), introjected regulation (e.g., "Because I would feel guilty for not attending class"), external regulation (e.g., "In order to obtain a high grade in the class"), and amotivation (e.g., "I don't really know; I can't see why I would attend class") was included in the questionnaire. Students indicated their agreement to each statement using a 7-point Likert scale (1-Does not correspond at all, 7-Corresponds exactly). Intrinsic motivation, integrated, and identified regulations were used to represent self-determined motivation (SD) and introjected, external, and amotivation were used to represent non-self-determined motivation (NSD). For the purposes of this study, total scores were calculated for both *SD* (M = 15.45, SD = 3.76) and *NDS* (M = 13.81, SD = 2.44) where high scores on either variable represent higher agreement with motivation to attend class on a regular basis.

Scenario-Based Questions

Students were presented with four open-ended questions. Each question introduced a different scenario and asked the students to describe their reactions and courses of action for each situation. The different scenarios included: (1) receiving lower grades than expected in the first midterm; (2) missing class due to personal circumstances; (3) having problems locating one of the textbooks for the class; and (4) having difficulties understanding the course content while faced with an upcoming midterm. In total, 915 short statements resulted from this exercise (autonomy supportive condition n = 453; controlling condition n = 462) and the statements ranged between 1 and 107 words. All statements were analyzed for the purposes of the qualitative analyses.

Quantitative Analyses

Similar to Study 1, a series of chi-square and t-test analyses were performed to confirm whether the randomization worked and identify any potential group differences on participants' demographic characteristics (age, gender, ethnicity, year of study, enrollment status, and faculty). Next, to identify any potential covariates, chi-square, t-test, and one-way ANOVA analyses were conducted on the study variables representing instructor interpersonal behavior (autonomy support, autonomy thwarting/control, competence support, competence thwarting, relatedness support, and relatedness thwarting), instructor impressions (overall score), feelings about the course (overall score), and motivation to attend class (self-determined and non-self-determined) to confirm there were no differences on participants' demographic characteristics. Finally, group mean comparisons were conducted to examine differences on all study variables to identify differences between the autonomy-supportive and controlling syllabus condition, while controlling for relevant student demographic conditions.

Qualitative Analysis

A thematic analysis (Braun & Clarke, 2006; 2012) was conducted of the participants' responses to the four open-ended questions described above. After familiarizing themselves with the data (Phase 1 - Familiarization with the data), two of the authors met to present, discuss, and agree upon the respective codes that would be used for the subsequent analysis, as well as their operational definitions (Phase 2 - Generating initial codes). From this exercise, a codebook with indicators and examples of each code was developed (Crabtree & Miller, 1992; Nowell et al., 2017). Next, following Creswell and Poth's (2018) recommendations to ensure intercoder agreement, two independent blind coders individually coded a segment of the data and then compared findings to ensure a comprehensive understanding of the codebook. This was done following a training session on NVivo and a review of the information presented in the codebook. Next, the coders individually coded the entirety of the responses, independently of the condition (controlling syllabus/autonomy supportive syllabus) and sought reference to the pre-identified codes. Finally, both coders met with the first author to discuss each segment of the data and reach an agreement on the coding. Disagreements between the coders were resolved through discussion. For the purposes of this study, the coders reached 100% agreement, k = 1.00. Following this, codes that shared common features were collapsed into broader themes (Phase 3 - Searching for themes), which were then reviewed by the first and last authors to confirm whether they meaningfully reflected both the codes, as well as the entire data set (Phase 4 - Reviewing potential themes). Next, the titles and definitions of these themes were further refined (Phase 5 - Defining and naming themes), and meaningful extracts from the participants' open-ended responses were selected to serve as key examples (Phase 6 - Producing the report).

Quantitative Results

Preliminary Results

The results of the preliminary analyses examining differences in demographic characteristics (gender, ethnicity, year of study, enrollment status, and faculty) showed that there were no significant differences and that the randomization worked as both groups were equivalent. However, preliminary analyses indicated a difference between the groups for participant's ages (see note in Table 5), although the effect size was small (Cohen's d = 0.29). Next, analyses identifying potential relationships between the study variables and demographic characteristics were also not significant (see Table 7). As such, the following analyses were all conducted as planned, without controlling for any demographic covariates.

Table 7. **Study 2: T-test and ANOVA Results**											
		IBQAS	**IBQAT**	**IBQCS**	**IBQCT**	**IBQRS**	**IBQRT**	**IP**	**FC**	**SD**	**NSD**
Gender	*t*	-0.486	-0.169	-0.961	-1.405	-1.463	0.243	-0.341	0.801	1.514	0.248
	df	233	233	233	231	233	233	221	233	233	233
	p	0.628	0.866	0.338	0.161	0.145	0.808	0.734	0.424	0.131	0.804
	Cohen's *D*	-0.069	-0.024	-0.136	-0.200	-0.207	0.034	-0.049	0.113	0.214	0.035
Race/Ethnicity**	df_M	5	5	5	5	5	5	5	5	5	5
	df_E	228	228	228	227	228	228	215	228	228	228
	F	0.447	0.927	0.629	0.936	0.827	0.787	0.377	1.378	2.818	0.441
	p	0.815	0.464	0.678	0.458	0.532	0.560	0.864	0.233	0.017	0.820
	$\acute{\eta}^2_p$	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.03	0.06	0.01
Year of Study**	df_M	4	4	4	4	4	4	4	4	4	4
	df_E	230	230	230	228	230	230	218	230	230	230
	F	1.106	1.739	0.947	1.257	0.321	0.877	0.460	0.553	0.290	0.092
	p	0.354	0.142	0.438	0.288	0.863	0.478	0.765	0.697	0.885	0.985
	$\acute{\eta}^2_p$	0.02	0.03	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.00
Faculty**	df_M	6	6	6	6	6	6	6	6	6	6
	df_E	224	224	224	222	224	224	212	224	224	224
	F	1.027	1.753	1.830	1.597	0.914	1.511	2.047	1.467	0.785	0.729
	p	0.408	0.110	0.094	0.149	0.486	0.175	0.061	0.191	0.583	0.627
	$\acute{\eta}^2_p$	0.03	0.04	0.05	0.04	0.02	0.04	0.05	0.04	0.02	0.02
***One-Way ANOVA (Independent).*											

Professor's Interpersonal Behaviors

The Welch's t-test results suggested there was a statistically significant difference in perceptions of the professor's supportive interpersonal behaviors depending upon which syllabus students viewed (autonomy $t_{(215.82)} = -10.95$, $p < .001$; competence $t_{(219.54)} = -7.08$, $p < .001$; relatedness $t_{(233.82)} = -8.07$, $p < .001$) with large effects (Cohen's $d = 1.42, 0.92, 1.05$). Students who viewed the autonomy-supportive syllabus ($M = 4.92$, $SD = 1.18$) perceived the professor of the course to be more supportive of their autonomy and choices than those who saw the controlling syllabus ($M = 2.90$, $SD = 1.62$). Similarly, the same pattern emerged with perceived competence support (autonomy-supportive syllabus: $M = 5.09$, $SD = 1.22$; controlling syllabus: $M = 3.77$, $SD = 1.61$) and perceived relatedness support (autonomy-supportive syllabus: $M = 3.96$, $SD = 1.42$; controlling syllabus: $M = 2.43$, $SD = 1.49$).

The results were also statistically significant regarding the differences of perceptions between both groups of students and their perceptions of the professor after reading both syllabi (autonomy thwarting/controlling $t_{(233.97)} = 9.99$, $p < .001$; competence thwarting $t_{(227.71)} = 8.27$, $p < .001$; relatedness thwarting $t_{(219.53)} = 7.17$, $p < .001$). Again, all group differences had large effects (Cohen's $d = 1.04, 1.08, 0.93$). Students who were presented with the controlling syllabus rated their professor as more likely to impose their opinions on them (autonomy thwarting/controlling $M = 4.87$, $SD = 1.41$), more likely to doubt their capacity to succeed (competence thwarting $M = 3.93$, $SD = 1.43$), and more likely not to care about them (relatedness thwarting $M = 4.43$, $SD = 1.76$) compared to students who saw the autonomy-supportive syllabus (autonomy thwarting/controlling $M = 2.43$, $SD = 1.49$; competence thwarting $M = 2.50$, $SD = 1.22$; relatedness thwarting $M = 2.97$, $SD = 1.33$).

Professor Impressions

The results suggested there was a statistically significant difference in how the professor's characteristics were perceived between students who saw the autonomy-supportive compared to the controlling syllabus ($t_{(212.40)} = -10.90$, $p < .001$) with a large effect (Cohen's $d = 1.41$). Students who viewed the autonomy-supportive syllabus ($M = 5.11$, $SD = 0.73$) perceived the qualities and behaviors of their professor in a more positive light (e.g., "The instructor demonstrates respect for the students and expects the same in return" or "The instructor is flexible and open-minded.") than students who viewed the controlling syllabus ($M = 3.84$, $SD = 1.03$).

Feelings About the Course

There was a statistically significant difference between student's feelings and thoughts about the course depending upon which syllabus they saw ($t_{(232.69)} = -5.77$, $p < .001$; Cohen's $d = 0.75$). Students who saw the autonomy-supportive syllabus ($M = 4.67$, $SD = 1.05$) reported a higher sense of belongingness, self-sacrifice, persistence, engagement, and perceived relevance of the course to their future in comparison with students who read the controlling syllabus ($M = 3.84$, $SD = 1.15$).

Motivation to Attend Class

There was a statistically significant difference in students' reported self-determined motivation depending upon whether they viewed the autonomy-supportive or controlling syllabus ($t_{(233.72)} = 2.85$, $p = .005$; Cohen's $d = 0.37$). Students who viewed the autonomy-supportive syllabus ($M = 16.14$, $SD = 3.60$) were slightly more likely to agree that they would attend class for self-determined reasons (e.g., because they enjoy it or they believe it is important) compared to the students who viewed the controlling syllabus ($M = 14.77$, $SD = 3.80$). When it came to non-self-determined motivation, where students indicated their agreement about attending class because they have to or to achieve a certain grade, there was no statistically significant difference depending upon which syllabus student saw ($t_{(233.96)} = 0.17$, $p = .865$; Cohen's $d = 0.02$).

Qualitative Results

Using a thematic analysis, the participants' responses to the 4 different scenarios were grouped into the following five major

themes and 17 subthemes. The NVivo software (QSR, 2020) provided the quantified prevalence of each code, and these were subsequently collapsed into bigger themes. Themes, subthemes, and their numerical prevalence are presented in Table 8.

Attitudes Interacting with the Professor

Although students who read the controlling syllabus mentioned seeking help from the professor as a hypothetical course of action, many expressed feelings of apprehension about approaching them, as they perceived that the professor may not have "much sympathy" and may "not want to provide help". For example, when faced with the hypothetical idea of talking to the professor and arranging an appointment to discuss their grades, a student said: "As harsh as the syllabus is written, I would be anxious about approaching the instructor." Furthermore, students who read this syllabus reported having low expectations, a certain level of uncertainty, and anticipating the "worst" in terms of expected outcomes from their hypothetical interactions with the professor "as this professor seems to be uncaring towards his students and their success." In contrast, only a small number of students who read the autonomy-supportive syllabus expected they would feel uncomfortable or uneasy visiting the professor. For example, when considering a hypothetical discussion with their professor about missing classes and getting up to speed, a student said: "I would probably be nervous about going but would still do it."

Behaviors Interacting with the Professor

Regardless of the course syllabus students viewed, the majority considered actively interacting with the professor to make sure "[they] got the help [they] needed" and "[were] on the right track to succeed." Students mentioned they would approach the professor to seek further explanations on class content, to get advice on ways in which to improve in the course, to negotiate their grades, and to learn from their mistakes.

Students presented with the controlling syllabus indicated that following the instructions listed on the syllabus was the "best way to handle situations" in the proposed scenarios. Within this condition, contacting the professor through e-mail to request an appointment or approaching the professor in class were the courses of action most often mentioned. Some students, however, expressed being "less motivated to see the professor if office hours [were arranged] by email only" while others articulated that they "[would not] feel welcome to ask the professor directly." On the other hand, students who read the autonomy supportive syllabus expressed they would directly visit the professor during their office hours as "the teacher said that his door was open."

Regardless of the syllabus viewed, a small percentage of students reported they would likely avoid or postpone interacting with the professor no matter what. For example, a student who read the controlling syllabus explained that "only in the worst case I would go to the professor," and a student who read the autonomy-supportive syllabus said: "[I would] try my best to figure it out on my own and ask friends on small problems. If the material is still not making sense I would go and visit the professor during their office hours to get a deeper explanation."

Help-Seeking Behaviors (Other than the Professor)

Consulting their peer network was a predominant hypothetical behavior noted among students, regardless of the syllabus

Table 8. **Themes, Subthemes and their Prevalence by Syllabus**

Theme	Subtheme	Ref.	Autonomy Supportive Syllabus	Controlling Syllabus
Attitudes Interacting with the Professor	Avoiding interaction with professor	61	26 42.62%	35 57.38%
	Anticipating Negative Interaction with Professor	34	4 11.76%	30 88.24%
	Anticipating Positive Interaction with Professor	6	2 33.33%	4 66.67%
Behaviors Interacting with the Professor	Consulting the Professor	496	279 56.25%	217 43.75%
	Negotiating with the Professor	47	25 53.19%	22 46.81%
	Asking for Advice to the Professor	207	129 62.32%	78 37.68%
Help-Seeking Behaviors (Other than the Professor)	General Help Seeking (non-specified)	18	4 22.22%	14 77.78%
	Consulting Peers	286	123 43.01%	163 56.99%
	Consulting Additional Instances	52	21 40.38%	31 59.62%
Responses that Involve Course Performance	Hoping for the Best	83	33 39.76%	50 60.24%
	Working for the Best	195	85 43.59%	110 56.41%
	Dropping the Course	36	8 22.22%	28 77.78%
	Unethical Behaviors	5	1 20%	4 80%
	Acceptance	38	18 47.37%	20 52.63%
	Negative Affect	11	6 54.55%	5 45.45%
Perceptions of Professor and Course	Positive Perceptions of Professor and Course	5	4 80%	1 20%
	Negative Perceptions of Professor and Course	31	6 19.35%	25 80.65%

**Ref. indicates the number of times that the sub-theme was found in the qualitative data.*

they viewed. Students reported that they would approach fellow students to organize study groups, catch up on missing course content, share resources such as notes and textbooks, and ask for advice. Students who read the autonomous-supportive syllabus indicated they would complement this behavior with interactions with the professor. For example, a student explained that in the hypothetical case of missing classes: "I would try to ask a classmate to help me by showing me their notes. If I did not understand a concept they saw while I was away, I would see the professor during office hours to clarify with them." Although students who read the controlling syllabus also mentioned approaching the professor as a supplementary hypothetical measure, most of them expressed they would rely heavily on their classmates in situations where they needed help. Some explained that: "The syllabus demonstrates that the professor is not there to help outside of class. I will seek help from a friend" or "I would likely discuss my troubles with other students before I even thought about the professor. I don't think this instructor would be very approachable based on the syllabus."

In both conditions, students also mentioned they would potentially consult additional resources such as tutors, teaching assistants, academic support services, and peer mentoring services. Some students in the controlling syllabus condition, however, said they would pursue other avenues, such as consulting the Dean of the Faculty or the Head of the Department in cases where the professor failed to accommodate in extenuating circumstances (e.g., reasonable reasons for having to miss class).

Responses that Involve Course Performance

Students in both conditions expressed having a plan to correct a hypothetical negative outcome in the course. Besides seeking help from the professor, their peer networks, and additional academic resources as described above, students also referenced individual mechanisms such as improving study methods, using online resources, and devoting more time and effort to their studies to "succeed in the future." Although students expressed that they would have a plan to work towards a better outcome, some students expressed they would accept the hypothetical negative outcome without any action, or they would respond only by way of emotional reaction (e.g., being upset, disappointed, or crying).

Of particular note, students considered they would drop the class when faced with imagined issues such as a bad grade, difficulty in finding/obtaining the textbook, not understanding key concepts, and encountering barriers to access help. This hypothetical course of action was more prominent among students who viewed the controlling syllabus than among students who read the autonomy-supportive syllabus. Illustrating this trend in the controlling syllabus condition, a student said "I would likely drop the class, since [I] probably wouldn't improve with this teacher" when imagining how they would react to receiving their first midterm grade and scoring much lower than expected.

Perceptions of Professor and Course

After reading the controlling syllabus, some students perceived their hypothetical professor as an "arrogant and cold person," not "very lenient" with their needs, having "a hard marking scheme," "practically unapproachable," not being "the most accommodating person," and not being "very supportive." Going a step further, a student voiced their intention to publicly express their opinions of the professor "[I would] give the teacher a horrible review because he needs to know that he sucks." On the other hand, another student in this group expressed feelings of optimism and hope, saying: "besides the course outline, maybe I actually find the course material and professor interesting."

Students in the autonomy-supportive condition were less outspoken when expressing their perceptions of their hypothetical professor. Some expressed being worried about imagined errors in marking or being frustrated if they would not be able to find the required textbook. With regards to the professor, these students used words as "inviting" or "approachable" when describing their perceptions.

Discussion

Overall, the results showed that an autonomy-supportive syllabus predicted improved perceptions of the professor, increased positive feelings about the course, as well as increased students' self-determined motivation, compared to a controlling syllabus. These results did not vary depending upon the students' background characteristics.

The results were generally consistent with existing SDT literature. The students who read the autonomy-supportive syllabus reported that the hypothetical professor for the course was more autonomy supportive, which was also found in Young-Jones and colleagues' (2021) recent study. Given that the language is intentionally autonomy-supportive in the syllabus, it is unsurprising that students associated this language with a professor that would engage in these behaviors. The results from the current study also expand upon these findings by showing a link between reading an autonomy-supportive syllabus and perceiving the hypothetical professor to be more competence and relatedness supportive. These links should be replicated in follow-up studies but provide interesting preliminary evidence supporting professors can not only encourage students to perceive them as more autonomy-supportive, but also as more need-supportive in general through the choice of autonomy-supportive language used in their syllabus. Since perceptions of these behaviors have been shown to relate to students' expected behavior later in the course (e.g., Mouratidis et al., 2018), it is important to use the opportunity to create a good first impression with the syllabus.

The findings of this study also supported that the controlling syllabus has potential to impact perceptions of professors' interpersonal behaviors through the negative pathways according to SDT (Assor et al., 2005). As would be expected according to SDT, students who viewed the controlling syllabus were more likely to report that the professor is autonomy-thwarting (Jang et al., 2016). It is important to note that although the language in the syllabus was not intentionally competence or relatedness thwarting, students still rated the hypothetical professor higher on those interpersonal behaviors. The implications are that a controlling syllabus has potential to make a negative impression on students and set the tone for a need-thwarting environment which has been shown to promote negative outcomes for students such as burnout, dropout, or anxiety (e.g., Jang et al., 2012; Shih, 2015). Adding the negative pathways allowed us to expand upon Young-Jones' (2021) work by linking the language used in the syllabus to more a broader set out of SDT constructs.

The results surrounding impressions of the professors related to their master teacher abilities, as well as feelings about the course were consistent with the previous literature. Overall, students who viewed the autonomy-supportive syllabus had better impressions about the overall quality of the professor

based on master teaching qualities and that they were more likely to feel engaged, willing to expend effort, and feeling a sense of belongingness. Specifically, these findings are consistent with the previous work examining the format, tone, and learner-centered content of syllabi and their relationship to perceiving the professor as more approachable (Ludy et al., 2016) and enthusiastic (Richmond et al., 2016).

The results of the analyses examining students' self-determined motivation towards attending the course replicated the results Young-Jones' and colleagues (2021) findings as students who reviewed the autonomy-supportive syllabus had higher self-determined motivation than students who viewed the controlling syllabus. Interestingly, the syllabus had no impact on non-self-determined motivation for attending class. This result is unexpected given that students perceived the hypothetical professor as being more need thwarting, which should promote increased non-self-determined motivation; however, this relationship did not seem to hold. This suggests that the syllabus may potentially promote more self-determined motivation but does not seem to make non-self-determined motivation for attending class stronger. As such, an autonomy-supportive syllabus makes a positive contribution to motivation towards attending class, whereas a controlling syllabus may have a neutral or negligible impact. One potential confound was that students were asked to respond about their intentions to attend class and not their engagement or intentions to learn the material. Since the non-self-determined items focused on "feeling guilty for not attending" or "obtaining a high grade in the class", it is possible the syllabus language had no real impact on what students would respond to these items since attending class is associated with getting higher grades and students may feel guilty about not physically attending, regardless of their motivational orientation (Hollett et al., 2020).

The qualitative analyses allowed for a deeper understanding of how the syllabus predicts how students believe they will behave during scenarios that typically occur during a semester. Although the sub-themes emerged for students who read either syllabus, there were some interesting findings and patterns that emerged. Overall, many students acknowledged that they would consult with the professor, ask for advice, consult their peers, and that they would try their hardest. However, the students who viewed the controlling syllabus anticipated more negative interactions with the professor, sought out other resources, had negative perceptions about the professor and the course, and mentioned more about potentially dropping the course. Alternatively, students who read the autonomy-supportive syllabus expected to interact with the professor more and felt comfortable asking for advice.

GENERAL DISCUSSION

Many existing studies examining syllabus preference and best practices for syllabus design have been conducted on samples of students who are primarily white, women, in their first year and studying in psychology (e.g., Frey et al., 2021; Gurung & Galardi, 2021; Nusbaum et al., 2021; Richmond et al., 2016; Young-Jones et al., 2021). There is a need to replicate results in more diversified samples (e.g., Kim & Ekachai, 2020; Wheeler et al., 2019; Young-Jones et al., 2021) and the present research aimed to recruit a more representative sample of students to reduce any potential bias caused by sample characteristics. In both studies, students were randomized to view either an autonomy-supportive or controlling syllabus and the groups were equivalent on most key demographic factors (gender, ethnicity, year of study, enrollment status, and faculty). In Study 2, we also conducted analyses to see if there were any differences in the study variables (professor's interpersonal behaviors, professor impressions, feelings about the course, and motivation to attend class) based on students' demographic characteristics and the results supported that there were no differences. These results are consistent with the previous work of Motameni and colleagues (2015) who found no differences in how students from diverse backgrounds (age, gender, ethnicity) perceived syllabi, however, are inconsistent with Perrine et al's. (1995)'s finding that found older students were more likely to seek help with a non-supportive syllabus. The findings are also consistent with SDT research that has demonstrated that needs for autonomy, competence, and relatedness are universal across all cultural backgrounds (e.g., Reeve et al., 2014), ages (e.g., Palmer, 2010), and genders (e.g., Duncan et al., 2010). In education settings, specifically, research from leading social scientists from various cultural backgrounds have continued to support that all types of students require autonomy-support to foster self-determined motivation in the classroom, regardless of their cultural background (e.g., Chirkov, 2009). The findings of the present research suggest that autonomy-supportive syllabi do not only have the potential to positively impact certain students, but that all students can benefit from this supportive language.

Overall, the findings from this research support that there are many advantages to incorporating autonomy-supportive language into a course syllabus and few downsides or risks for doing it. As seen from the syllabi shared in the supplementary material, minimal changes were made to the language in order to differentiate the two syllabi. Despite these minimal changes, students reported that the autonomy-supportive syllabus was more autonomous and had more positive feelings when reading it compared to the controlling one (Study 1), as well as more positive impressions about the hypothetical professor, their expectations for the course, and their motivation quality for attending class (Study 2). This supports that autonomy-supportive language is powerful compared to controlling language and that the differences between the two may be quite nuanced, but not too difficult to implement (e.g., Vansteenkiste et al., 2004). Given that the benefits of setting an autonomy-supportive learning environment outweigh a neutral or controlling (e.g., Stone et al., 2009) environment when to comes to promoting outcomes for students, the findings of this research suggest that creating an autonomy-supportive syllabus is an effective strategy for professors who want to make a good first impression and set the tone for the semester while using minimal resources.

LIMITATIONS

Although there are many strengths to this work, it is important to highlight some key limitations. First, both studies relied on a cross-sectional and self-reported approach for collecting data. Although we took steps to control for potential bias through randomizing participants to the syllabi conditions and adding a manipulation check, the results do not include an objective measure of students' behavior and were taken at one time point. An additional limitation is that students were asked to report on a syllabus for a hypothetical course that they were not registered for. It is possible that students responded differently in

this research setting than they would in a real course when they would be expected to follow-through or commit to everything written in the syllabus.

FUTURE DIRECTIONS

The findings of the current study complement the existing work by Young-Jones and colleagues (2021) and provide a solid starting point for examining the role of autonomy-supportive and controlling syllabi in university classrooms. Some important next steps would be to examine potential demographic characteristics related to the professor such as gender or age and perceived need support or need thwarting. Although we did not observe any differences at the student level in how they perceived the professor based upon their own backgrounds, existing research from other areas of best practices in syllabus development have found that the professors' age or gender may be related to perceptions (e.g., Stowell et al., 2018). An additional next step would be to combine the autonomy-supportive syllabus with some of the other best practices in syllabus design related to the use of graphics or figures and personal touches (e.g., Ludy et al., 2016) to see if those additions can promote improvements in student perceptions and outcomes beyond what is expected by either one on their own. Next, it would also be important to compare the impact of autonomy-supportive syllabi in face-to-face classes with virtual classes to see if the benefits are stronger in instances where students will have less interactions and opportunities to meet the professor. Finally, the results should be replicated in the context of a real class and students' outcomes and perceptions should be tracked longitudinally to link how intentions and expectations match students' behavior.

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