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Testing the Applicability of the Instructional Beliefs Model across Three Countries: The Role of Culture as a Theoretical Parameter

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ABSTRACT

Instructional communication research is critiqued for lacking theoretical development and limited cultural understanding. This study tested the instructional beliefs model (IBM) in three countries: US, Turkey, and Finland. Participants (N = 376) reported perceptions of teacher relevance, state motivation, procedural justice, learner empowerment, and revised learning indicators. Results revealed that the IBM provided a good fit to the data in Turkey and Finland but not in the US. In all models, procedural justice and state motivation were significant predictors of learner empowerment, and learner empowerment strongly predicted revised learning indicators. However, teacher relevance only predicted learner empowerment in non-US classrooms. These results have practical implications for teaching in increasingly diverse classrooms and understanding higher education abroad. This study supports and extends IBM.

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Culture; instructional communication; theory; learner empowerment

Scholars have identified several critiques of instructional communication research, some of which have appeared in our literature reviews and calls for future research repeatedly. One critique centres on the lack of theoretical development in the field (Myers et al., 2016; Nussbaum & Friedrich, 2005; Staton-Spicer & Wulff, 1984). A review of instructional communication research shows that many scholars' "preoccupation with variable-analytic (rather than programmatic) research further perpetuates the notion that instructional communication research is atheoretical" (Waldeck et al., 2001, p. 225). While instructional communication scholars have improved in their use of theory over the past two decades, more theory testing and theoretical development needs to be done to solidify our sub-discipline as a rigorous, distinct area of research (Farris et al., 2018).

In response to this critique, several scholars have developed instructional theories and models (e.g. general model of instructional communication, McCroskey et al., 2004; rhetorical and relational goals theory; Mottet et al., 2006). However, one that has gained empirical support is Weber et al.'s (2011) instructional beliefs model (IBM). The authors

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described the model as "an authentic theory of instructional research that views communication as central to the instructional setting" (Weber et al., 2011, p. 53). Since its inception, numerous scholars have employed the IBM as a theoretical framework and provided evidence of the model's explanatory power (e.g. Frisby et al., 2014; Kaufmann et al., 2016; LaBelle et al., 2013; Vallade et al., 2014). However, all known tests of the IBM have solely explored United States (US) classrooms; it remains unclear how culture may influence the relationships proposed in the IBM or the relative heurism of the model itself.

Indeed, instructional communication research has also been critiqued for almost exclusively exploring the instructional process in US classrooms (McCroskey & McCroskey, 2006; Sellnow et al., 2015). This is not a critique unique to instructional communication; Euro-American centrism is evident in communication research at large (Wang, 2014). Waisbord and Mellado (2014) argued that "de-westernization is deemed necessary to enrich a field that has been historically organized around analytical concepts, epistemologies, arguments, and evidence developed in the United States and Western Europe" (p. 362). Within the context of instruction, scholars agree that it is essential to understand the culturally-grounded viewpoints of both instructors and students because national culture affects perceptions of the learning and teaching process (e.g. Backlund et al., 1996; Kragh & Bislev, 2005; Powell & Harville, 1990). In addition, classrooms are becoming increasingly globalized and diverse (Castiello-Gutiérrez, 2019), necessitating the examination of instructional behaviours for their effectiveness with all learners, regardless of cultural background or nationality.

Thus, this study seeks to respond to these critiques of instructional communication by testing the IBM in three countries: the US, Finland, and Turkey. To begin, an overview of the IBM is provided. Second, culture as a theoretical parameter in instructional communication is considered, and similarities and differences among the higher education systems of the US, Finland, and Turkey are explored. Finally, the student characteristic, teacher behaviour, course structural issue, academic belief, and learning outcome used to test the IBM in each country are overviewed.

The Instructional Beliefs Model

The IBM, grounded in common instructional communication concepts, offers a framework for understanding what leads to student learning outcomes in the classroom (Weber et al., 2011). The model explains that student perceptions of teacher behaviours, student characteristics, and course-specific structural issues (first order constructs) – all of which are associated with each other – combine to predict student instructional beliefs (second order construct). Instructional beliefs are defined as expectations about one's own academic performance (e.g. academic self-efficacy), and similar to the first order constructs, are based on student perceptions (Weber et al., 2011). In turn, these instructional beliefs influence student learning outcomes (third order construct). For a visual depiction of the model, see Figure 1. Because many of the relationships forwarded by the IBM are generally accepted within the field, Weber et al. emphasized that "it is not so much whether or not certain instructional variables are related to each other that is of concern to the IBM, but the explanation of how and why these constructs are related" (p. 53).

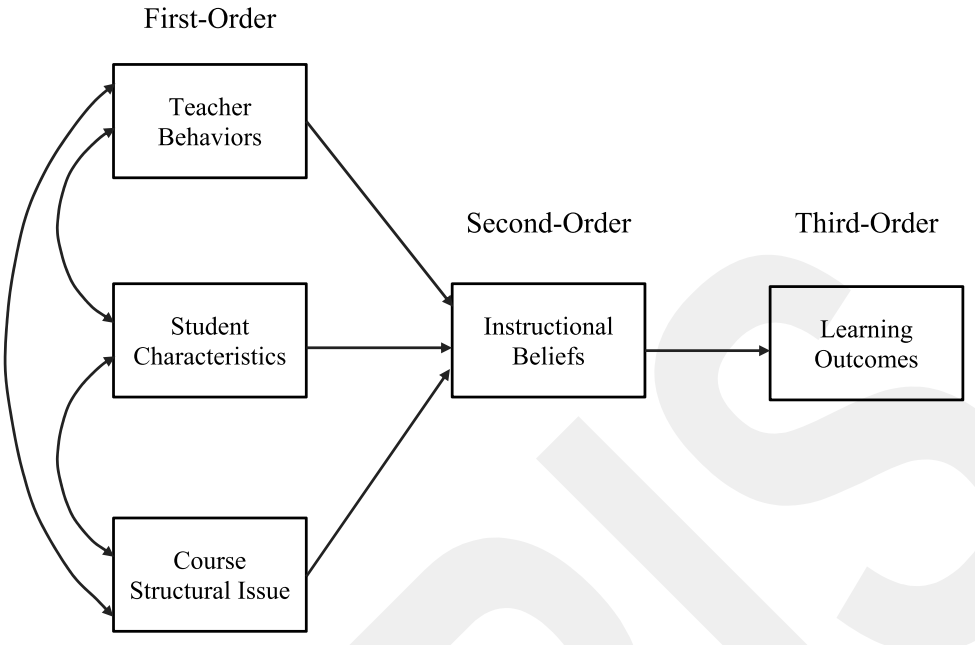

Figure 1. Visual depiction of the instructional beliefs model.

In Weber et al.'s (2011) seminal article, the authors conducted three studies to assess the validity of the newly formed model. In the first study, they examined teacher relevance (teacher behaviour), procedural justice (course-specific structural issue), and student intrinsic motivation (student characteristic) as predictors of student self-efficacy (instructional belief), which in turn influenced student time on task and effort regulation (learning outcomes). Results demonstrated the model was a good fit for the data and provided initial support for the model. In the second and third studies, Weber et al. explored a different set of variables to test the IBM, examining teacher nonverbal immediacy (teacher behaviour), procedural justice (course-specific structural issue), and student state motivation (student characteristic) as predictors of student learner empowerment (instructional belief), which in turn influenced student learning loss (learning outcome). In both studies, the IBM provided the best fit to the data collected and accounted for more variance in learning loss compared to previous instructional communication models (i.e. the Learning Model, the Motivation Model, the Affective Learning Model).

Subsequent researchers have used the IBM to frame research in various ways. Several studies have used the model to justify associations among constructs or to specify a particular predictive direction between variables (Frisby & Housley Gaffney, 2015; Goldman & Martin, 2014). Another study used the IBM as a framework for developing a scale to measure online learning climate (Kaufmann et al., 2016). However, the majority of studies have provided partial tests of the IBM, excluding one or more components from Weber et al.'s initial model but using the model's logic to propose mediation or to explain indirect relationships between variables (Frisby et al., 2014; Johnson & LaBelle, 2015; Kelly et al., 2020; LaBelle et al., 2013; Vallade et al., 2014). For example, Vallade et

al. (2014) tested how instructional beliefs (i.e. academic self-efficacy, control of learning, affective learning) mediated the relationship between first-order constructs – specifically student characteristics (i.e. grade orientation, academic entitlement) and course-specific structural issues (i.e. classroom justice) – and third-order learning outcomes (i.e. revised learning indicators, time and study environment). Vallade et al.'s test of the IBM did not include a construct to represent teacher behaviours.

Only one known study has attempted to test the IBM in its entirety since the model's inception. Every component of the IBM was represented in Wombacher et al.'s (2017) use of the model in the context of an online learning environment. The authors found that instructor credibility (instructor behaviour), student computer-mediated communication anxiety (student characteristic), and electronic propinquity (course-specific structural issue) predicted learner empowerment (instructional belief) which in turn influenced both perceived and actual cognitive learning (learning outcome). While this study represents progress in confirming the IBM, more tests of the full model need to be conducted to explore the model's validity.

Culture as a Theoretical Parameter

Although instructional research has made progress on examining instruction in a variety of cultures (e.g. Goodboy et al., 2012; Mansson & Myers, 2009; Zhang, 2007), many are atheoretical and none have tested the IBM. This study answers the calls for intercultural and theoretical work by exploring the applicability of the IBM to classrooms and student populations outside of the US.

Theories and models are often assessed using a common set of criteria (e.g. testability, scope, heurism, elegance or parsimony, the ability to explain, accuracy and support; Bodie, 2009; Potter, 2014). One criteria that is relevant to the current study is scope, which determines the breadth or comprehensiveness of a theory beyond a single context (Littlejohn & Foss, 2009). For a theory to be evaluated favourably in terms of scope, it must effectively explain concepts across many situations rather than just a single observation (Shapiro, 2002). Currently, the scope of the IBM has been limited to the US higher education system. In other words, it has culture-specific boundaries (Wang, 2014). Thus, this study has the potential to further define the scope of IBM. If the model is effective in other cultures, the scope of the IBM would be expanded, ultimately offering additional support for the theory. Conversely, if the model fails to predict student learning outcomes outside the US, the scope of the IBM would be more clearly delimited. To examine the influence of culture on the IBM's theoretical scope, Turkey and Finland were selected as comparison cultures for their relative differences in terms of their approach to higher education, both when compared to each other and when compared to the US. Previous research has also selected these specific countries for comparison given their stark differences (Topbas, 2013).

The Finnish higher education system is often considered the best in the world (Culture Trip, 2018). In fact, the education system is often referred to as the "Finland phenomenon" based on their innovative reforms (Imam & Jabeen, 2018, p. 1). Admission into Finnish universities is highly competitive, resulting in students that are markedly motivated and eager to learn (Fulbright Finland Foundation, 2010). Finland is one of the few remaining countries that offers free higher education to its citizens (Kosunen, 2018).

Both undergraduate and graduate studies are extremely independent and flexible, with students determining their own degree plans, rate of study, and course assignments (Fulbright Finland Foundation, 2010). In many ways, Bachelors degrees, most often completed in only 3 years, are considered a stage in the study for a Master's degree; few students leave university after the bachelor's level (The European Education Directory, 2014). In terms of instruction, regular communication between instructors and students outside the classroom is not customary (Fulbright Finland Foundation, 2010).

In Turkey, admissions into higher education is also highly competitive but it is not offered for free to citizens (Topbas, 2003; Yildirim, 2006). Whereas Finnish students have autonomy and flexibility in their studies, Turkish students are often met with a classroom structure that is more hierarchical and lacking in autonomy, open communication, and financial resources (Caliskan & Zhu, 2020). Turkey is a newer and fragile democracy (Achilov, 2020; Aydın-Düzgit, 2020; S. Croucher et al., 2013), but classrooms are a space where students engage, participate, and practice their political stances and voices (Frisby et al., 2017; Girgin & Stevens, 2005). Unlike the success of the Finnish higher education system, Turkish universities as a whole are historically ranked below average in terms of student learning compared to other countries (Lynch, 2014). In the classroom, instructors rely heavily on rote memorization, perhaps because of the nation-wide emphasis placed on testing (Berberoglu & Hei, 2003).

Clearly, the higher education systems in the US, Finland, and Turkey have structural and communicative differences. These differences are further highlighted when examining Hofstede's cultural dimensions across the three countries. Specifically, Turkey is higher than both the US and Finland in power distance and uncertainty avoidance, while the U.S. is higher than both Turkey and Finalnd in individualism and masculinity (Hofstede Insights, 2021). For example, whereas communication between instructors and students is not common outside of the classroom in Finland, out-of-class communication is highly encouraged in US institutions (Goldman et al., 2016). Further, the instructor is seen as an authority figure with greater professional boundaries in Turkey, while US students and instructors often develop personal relationships and co-construct learning (Frisby & Martin, 2010). What remains unclear is how these differences might influence the instructional process and student learning outcomes. To explore this, we examine the theoretical parameter of culture by testing the IBM in each country and examining the relationships among the same model constructs in each national setting.

Model Constructs

In their initial test of the IBM, Weber et al. (2011) emphasized that "the relationships between these constructs … need to be repeatedly examined" (p. 68). More recently, Kaufmann and Tatum (2017) called for more replication research in instructional communication. Thus, the present study explores teacher relevance (teacher behaviour), student state motivation (student characteristic), and procedural justice (course-specific structural issue) as predictors of student learner empowerment (instructional beliefs) – all variables included in Weber et al.'s initial tests of the IBM. However, this study extends Weber et al.'s work by including student revised learning indicators as each model's learning outcome similar to Vallade et al. (2014).

Teacher relevance, the teacher behaviour, refers to student perceptions of whether course content satisfies career goals, personal needs, and/or personal goals (Frymier & Shulman, 1995; Keller, 1983). Weber et al. (2011) argue that the instructor makes choices about materials, activities, and curriculum to show relevance to students putting the responsibility on the teacher for the behaviour. To make content relevant, instructors can explicitly state how course material relates to students' life goals through the use of examples and discussion; use students' experiences to demonstrate or introduce class content; or tailor course assignments and exercises to argue for the course's long-term importance (Frymier & Shulman, 1995). Students are more likely to perceive instructional ideas as meaningful and impactful, influencing students' feelings of empowerment, when they perceive relevance for a course and its content (Weber et al., 2011).

State motivation, the student characteristic, refers to student efforts to acquire educational knowledge or skills in particular contexts at a particular time (Brophy, 1987; Katt & Condly, 2009). In other words, state motivation describes a student's willingness to put forth effort to achieve a specific goal in a designated context (Katt & Condly, 2009). Motivation is a variable of importance in instructional communication research because of its strong connection to student classroom behaviour and learning (Goldman et al., 2017).

Classroom justice, the course structural issue, involves student "perceptions of fairness regarding outcomes or processes that occur in the instructional context" (Chory-Assad & Paulsel, 2004a, p. 254). Although three distinct types of classroom justice exist (i.e. distributive, interactional, and procedural), this study follows Weber et al. (2011) and explores *procedural justice* as a course-specific structural issue, defined as student perceptions of the fairness of the procedures teachers use in the classroom (Chory-Assad & Paulsel, 2004a). Instructors' expectations for students, the amount of work required to get a good grade in the course, how assignments and tests are scheduled, and how the instructor conducts class discussions are examples of factors that inform students' general perceptions of procedural justice (Chory-Assad & Paulsel, 2004a; Chory-Assad & Paulsel, 2004b). Importantly, student perceptions of procedural justice play a notable role in shaping student affective and cognitive learning experiences in the classroom (Chory-Assad, 2002).

Learner empowerment represents the second-order construct of instructional beliefs. To be an empowered learner means to find instructional tasks meaningful, to feel motivated to perform such tasks, and to feel like one's efforts have an impact on the larger instructional environment (Frymier et al., 1996; Weber et al., 2005). In this study, based on the relationships proposed by the IBM, changes in student feelings of empowerment provide an explanation for how first-order constructs influence learning indirectly in each country.

Learning indicators, the learning outcome explored across models, are defined as communicative behaviours that show increased levels of student learning such as thinking about course content outside of class, actively participating in class discussions, and talking with friends, family, and peers about course content (Frymier & Houser, 1999). Although researchers recognize the difficulty of measuring student learning, one of the most effective ways to predict learning is to examine student academic engagement time

(Frymier et al., 1996). These indicators of learning have been related to various measures of both affective learning and cognitive learning in previous research (Frymier & Houser, 1999; King & Witt, 2009; Wanzer et al., 2010).

These variables and their proposed relationships will be explored across three national contexts to further test the scope of Weber et al.'s (2011) IBM:

RQ: To what extent does the IBM predict student learning outcomes in (a) US, (b) Finnish, and (c)Turkish classrooms?

Method

Procedures

IRB approval (or the equivalent) was received at participating institutions in the US, Finland, and Turkey. For the US sample, a study announcement was sent via email to instructors in the first author's professional network asking them to share the recruitment information and Qualtrics survey link with students; students received minimal credit for completing this survey. For the Finnish sample, students were recruited via the university's email list system and were asked to complete a survey via Qualtrics. For the Turkish sample, students were recruited in-person to complete paper surveys during class. Sampling methods differed between countries based on recommendations from each university's research review board and expertise from authors who were faculty at participating institutions. Apart from language (i.e. English, Finnish, Turkish) and format (i.e. digital, print), surveys were identical across countries. All students were asked to think about the instructor they had immediately prior to completing the survey (Plax et al., 1986).

Participants

Participants from the US (N = 121) were students from a large southeastern university. Of the participants, a majority identified as female (n = 75; 62%) and a minority identified as male (n = 46; 38%) with ages ranging from 18 to 22 (M = 18.81, SD = 0.61). The sample included students identifying as Caucasian (n = 93; 76.9%), African American (n = 8; 6.6%), Asian (n = 5; 4.1%), Hispanic (n = 5; 4.1%), Mixed (n = 3; 2.5%), and Indian or Pakistani (n = 2; 1.6%). Participants included first year students (n = 111; 91.7%), sophomores (n = 6; 5%), and juniors (n = 4; 3.3%), and reported 41 unique majors across the university. Reported class sizes ranged from 14 to 500 (M = 63.28, SD = 82.70) with both female (n = 71, 58.7%) and male (n = 49, 40.5%) instructors; one student did not report their instructor's gender.

Participants from Finland (N = 99) were students from a large research university. Of the participants, a majority identified as female (n = 81, 81.8%) and a minority identified as male (n = 17; 17.2%), with 1 student not reporting their sex. Ages ranged from 18 to 70 (M = 25.37, SD = 7.84). All participants within the sample identified as Finnish. Participants included undergraduate (n = 55; 55.6%) and graduate students (n = 44; 44.4%) who had attended their university from one to seven years (M = 3.27, SD = 1.66). Reported class sizes ranged from 5 to 350 (M = 47.81, SD = 56.71) with both female (n = 55, 55.6%) and male (n = 44, 44.4%) instructors.

Participants from Turkey (N = 156) were undergraduate students from a large inner city university. Of the participants, a majority identified as female (n = 105, 67.3%) and a minority identified as male (n = 49; 31.4%), with 2 students not reporting their sex. Ages ranged from 18 to 37 (M = 21.91, SD = 3.42). All participants within the sample identified as Turkish. Participants included first-year students (n = 61; 39.1%), sophomores (n = 51; 32.7%), juniors (n = 22; 14.1%), seniors (n = 6; 3.8%), and graduate students (n = 16; 10.3%) and reported 17 unique majors across the university. Reported class sizes ranged from 8 to 100 (M = 41.08, SD = 16.85) with both female (n = 105, 67.3%) and male (n = 50, 32.1%) instructors; one student did not report their instructor's gender.

Instrumentation

The Finnish and Turkish surveys were translated and back translated to ensure consistent meaning and culturally appropriate measure validity. For the Finnish survey, two faculty members from the Finnish university, fluent in both English and Finnish, aided with survey translation. Items and instructions were translated into Finnish then retranslated into English (i.e. back translation; Brislin, 1970) to promote accurate interpretation and conceptual equivalence (Cha et al., 2007). For the Turkish survey, the fourth author, fluent in both English and Turkish, followed a similar process of translation and back translation. Before surveys were distributed, each was reviewed by a cultural consultant assigned by the IRB granting institution in the US.

Teacher Relevance

Teacher relevance was operationalized using a scale developed by Frymier and Shulman (1995) Relevance Scale. This 12-item instrument asks students to report the degree to which teachers made content relevant to students (e.g. "My teacher asks me to apply content to my own interests"). Responses were measured using a 5-point Likert scale ranging from *never* (0) to *very often* (4). The measure was reliable in the US (α = .96, M = 3.93, SD = .90), Finnish (α = .90, M = 3.55, SD = .86), and Turkish (α = .95, M = 3.83, SD = 1.00) samples.

State Motivation

Student state motivation was operationalized using a 16-item instrument combining items from Christophel (1990) and Richmond (1990). The items ask students to report the degree to which they feel ready and willing to engage in classroom activities (e.g. "Motivated – Unmotivated") (Beatty, 1994). Responses were measured using semantic differential items, with contrasting adjectives placed at opposite ends of the 7-point scale. The measure was reliable in the US (α = .96, M = 4.77, SD = 1.31), Finnish (α = .94, M = 4.58, SD = .94), and Turkish (α = .73, M = 4.65, SD = 1.06) samples.

Procedural Justice

Procedural justice was operationalized using one dimension of Chory-Assad and Paulsel (2004b) Classroom Justice Scale. This 15-item instrument asks students to rate the fairness of various classroom procedures (e.g. "the course attendance policies"). Responses were measured using a 5-point Likert-type scale ranging from *extremely unfair* (1) to *extremely fair* (5). The measure was reliable in the US (α = .97, *M* = 4.21, *SD* = .72), Finnish (α = .95, *M* = 4.12, *SD* = .78), and Turkish (α = .95, *M* = 3.80, *SD* = .92) sample.

Learner Empowerment

Learner empowerment was operationalized using Weber et al.'s (2005) Learner Empowerment Scale. Generated from Frymier et al.'s (1996) original 29-item version, this 18-item instrument asks students to report their perceptions of task meaningfulness, personal competence, and perceived impact (e.g. "I have what it takes to do well in this class"). Responses were measured using a 7-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (7). The measure was reliable in the US (α = .86, *M* = 4.93, *SD* = .91), Finnish (α = .94, *M* = 5.09, *SD* = 1.18), and Turkish (α = .90, *M* = 5.33, *SD* = 1.00) samples.

Revised Learning Indicators

Revised learning indicators were operationalized using Frymier and Houser (1999) Revised Learning Indicators Scale. Generated from Frymier et al.'s (1996) original 9-item version, this 7-item instrument asks students to report perceptions of time devoted to a course and progress in understanding content (e.g. "I think about the course content outside of class"). Responses were measured using a 5-point Likert scale ranging from *never* (0) to *very often* (4). The measure was reliable in the US (α = .94, *M* = 3.28, *SD* = 1.09), Finnish (α = .81, *M* = 3.48, *SD* = .79), and Turkish (α = .93, *M* = 3.35, *SD* = 1.04) samples.

Results

This study explored whether the IBM explained student learning outcomes in US (RQa), Finnish (RQb), and Turkish classrooms (RQc). Three path analyses were computed using the AMOS software package. In all models, correlated first-order IBM constructs (teacher

Table 1. Correlations among study variables in the United States, Turkey, and Finland.

	United States				Turkey				Finland			
Variable	1	2	3	4	1	2	3	4	1	2	3	4
1. Teacher Relevance	-				-				-			
2. State Motivation	.68**	-			.52**	-			.67**	-		
3. Procedural Justice	.30**	.33**	-		.71**	.64**	-		.56**	.57**	-	
4. Learner Empowerment	.54**	.63**	.62**	-	.63**	.70**	.70**	-	.71**	.88**	.66**	-
5. Revised Learning Indicators	.57**	.75**	.22*	.54**	.62**	.65**	.60**	.72**	.58**	.73**	.40**	.72**

Note. * indicates p < 0.01; ** indicates p < .001

relevance, state motivation, and procedural justice) influenced the student's second-order instructional beliefs (learner empowerment), which in turn influenced the third-order learning outcome (revised learning indicators). Correlations among study variables can be found in Table 1.

Following guidelines by Byrne (2001) and Kline (2011), numerous fit indices were considered when assessing model fit, as each of the various indices has potential limitations. First, models needed to demonstrate a chi-square ratio of approximately 2:1. Although this is a widely accepted norm in model fit reporting, chi-square is very sensitive to sample size (i.e. larger sample sizes result in larger chi-square values; Barrett, 2007). Second, models needed to demonstrate a comparative fit index (CFI) and normed fit index (NFI) above 0.90. While the CFI is fairly sensitive to sample size, the revised NFI is less sensitive (Marsh et al., 2004). Third, models needed to demonstrate a root mean square error of approximation (RMSEA) of less than 0.10. Researchers have argued that using a universal cut-off for RMSEA values is problematic because choices of cut-off values depend on sample size, model specification, and degrees of freedom (Chen et al., 2008). Fourth, models needed to demonstrate a standardized root mean square residual (SRMR) of less than 0.80. Unlike chi-square, SRMR values become lower as sample size increases (Hooper et al., 2008).

For the US sample (RQa), the path model provided a poor fit to the data: χ^2 (3) = 65.24, $p < 0.001$; NFI = 0.79; CFI = 0.79; RMSEA = 0.42 (90% CI = 0.33 to 0.51); SRMR = 0.13. Standardized regression coefficients, unstandardized regression coefficients, and path significance for the US sample can be found in Figure 2. For the Finnish sample (RQb), the path model provided an acceptable fit to the data: χ^2 (3) = 13.48, $p < 0.001$; NFI = 0.96; CFI = 0.97; RMSEA = 0.19 (90% CI = 0.09 to 0.30); SRMR = 0.04.

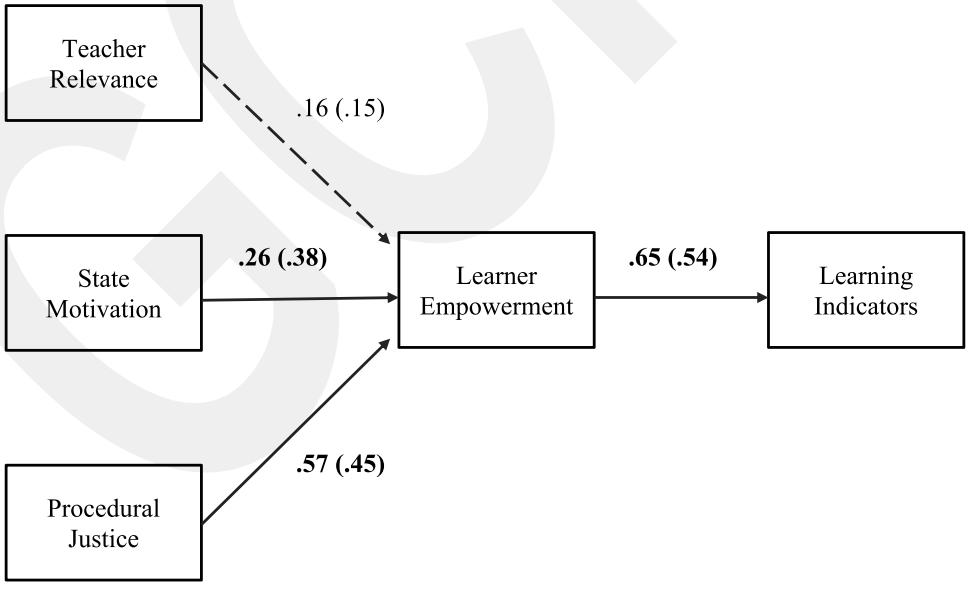

Figure 2. Path model for IBM in US sample. Unstandardized path coefficients are listed first, followed by standardized path coefficients in parentheses. Significant paths (p < .05) are denoted by solid lines and bolded coefficients. Nonsignificant paths are denoted by dashed lines.

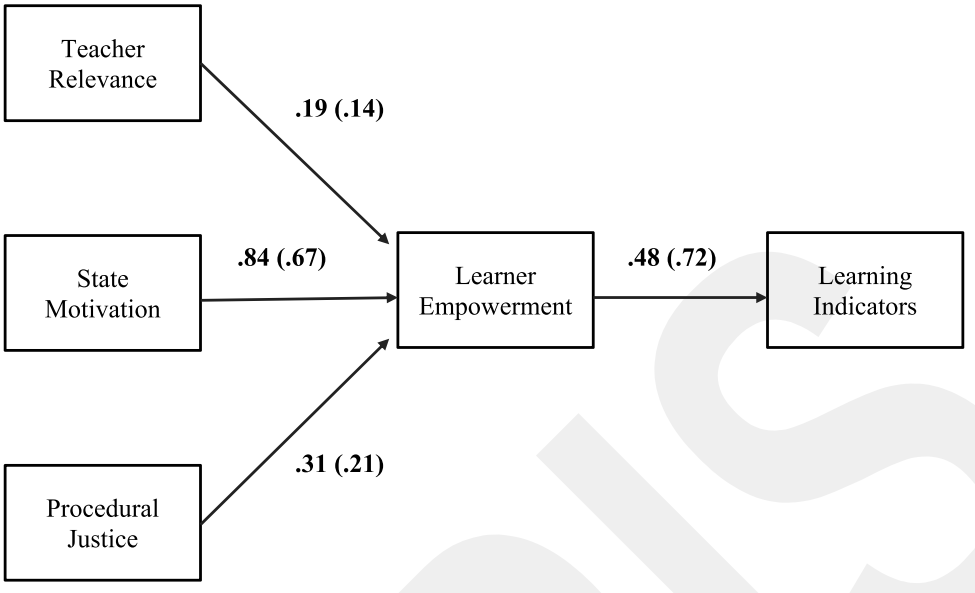

Figure 3. Path model for IBM in Finnish sample. Unstandardized path coefficients are listed first, followed by standardized path coefficients in parentheses. All paths were significant ($p < .05$).

Standardized regression coefficients, unstandardized regression coefficients, and path significance for the Finnish sample can be found in Figure 3. For the Turkish sample (RQc), the path model provided an acceptable fit to the data: χ^2 (3) = 31.16, $p < 0.001$; NFI = 0.94; CFI = 0.94; RMSEA = 0.25 (90% CI = 0.17 to 0.33); SRMR = 0.06. Standardized regression coefficients, unstandardized regression coefficients, and path significance for the Turkish sample can be found in Figure 4.

Discussion

The purpose of this study was to provide complete tests of the IBM as a theoretical framework in three distinct national contexts, answering the many calls to further theoretical development in instructional communication (Myers et al., 2016; Nussbaum & Friedrich, 2005; Staton-Spicer & Wulff, 1984) and for more research that considers culture in instructional communication (McCroskey & McCroskey, 2006; Sellnow et al., 2015). Interestingly, the model which was developed for use in the US did not perform well with the US student sample, and instead, only provided an acceptable model fit in two starkly contrasting cultures: Finland and Turkey. Based on the results, theoretical and cultural implications are discussed, and next steps for validating the IBM in US classrooms and abroad are forwarded.

Across all three models, there were weak or insignificant paths between teacher relevance and learner empowerment (β = .14 – .22). Although Weber et al. (2011) tested relevance as a teacher behaviour and learner empowerment as an instructional belief in the IBM, the constructs were included in two separate models. One potential explanation for these findings is that relevance may be more closely associated with eliciting student

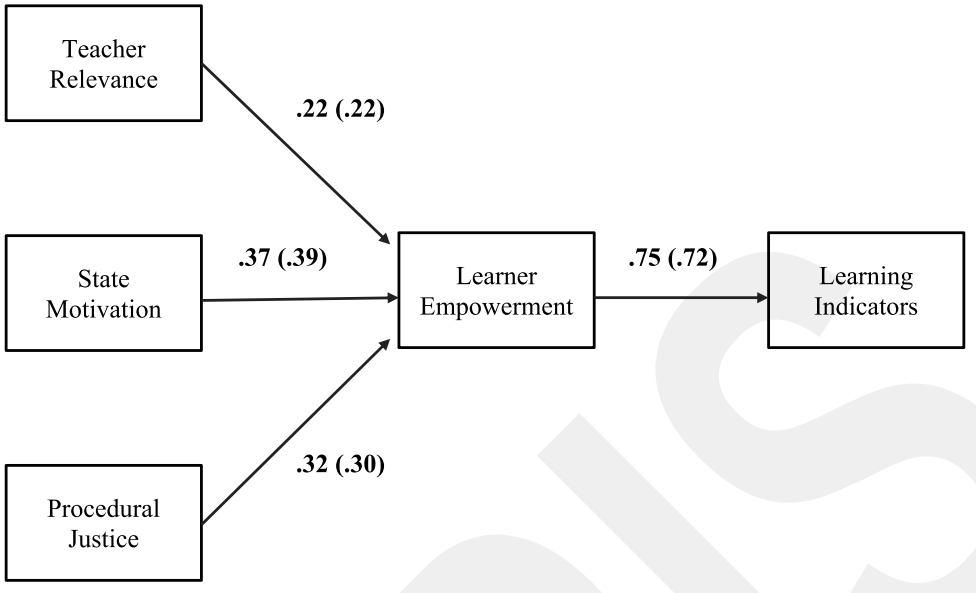

Figure 4. Path model for IBM in Turkish sample. Unstandardized path coefficients are listed first, followed by standardized path coefficients in parentheses. All paths were significant ($p < .05$).

interest in a course subject (i.e. an alternative instructional belief) rather than feelings of empowerment; Mazer (2012) found that interest and empowerment were distinct constructs. In this way, perhaps some first-order constructs are more strongly connected to particular instructional beliefs than others. These findings may also be explained by changing student expectations. Specifically, relevance is one of the top three desired characteristics in instructors (Goldman et al., 2017). If this is becoming a baseline expectation of instructors, it may reduce the power of relevance to change that particular student belief of empowerment. Additionally, what students find relevant and important is likely changing as new generations of students enter the classroom (Frey & Tatum, 2016). As such, the role relevance plays in influencing current students and spurring learner empowerment may be different today than when scholars have previously explored the relationships among these constructs (e.g. Frymier et al., 1996; Weber et al., 2011, 2001).

The links between procedural justice and empowerment were weak to moderate across models ($\beta = .21 - .45$). In US-based research, current students tend to be especially grade-oriented and consequently are attuned to the procedural justice and processes by which those grades are assigned (Horan & Myers, 2009; Vallade et al., 2014), providing an explanation for the comparatively stronger connection among both constructs in the US sample. Finnish university students have likewise been shown to value objective evaluation and fairness in grading procedures (Clarkeburn & Kettula, 2012). However, it is unclear whether this is due to a cultural preference towards directness and transparency in communication (Carbaugh et al., 2006) rather than heightened grade orientation. The little research that has considered justice in Turkish higher education notes the importance of perceived socio-economic and gender equality in forming perceptions of fairness, providing yet another explanation for why perceptions of justice may influence

instructional beliefs (Tomul et al., 2012). So, although justice and empowerment may be associated in each national sample, the reasons why these variables are connected may differ, emphasizing how culture has the potential to alter the explanations of why relationships exist in the IBM.

The pathways between state motivation and empowerment were notably different across models. Specifically, the relationship was strong in Finland (β = .67) but moderate in both the US (β = .38) and Turkey (β = .39). For Finnish students, motivation also seems to play a comparatively stronger role in predicting learner empowerment than teacher relevance (β = .14) or procedural justice (β = .21). In fact, across all three models, Finnish student motivation was the strongest predictor of learner empowerment. Differences in predictive strength of constructs across models illustrate that while the IBM appears to be a salient lens for generally framing the student learning process in various countries, the relative influence of constructs in each context likely differs. These divergences, at some level, are seemingly due to differences in national culture that influence the teaching-learning process in each educational system (S. M. Croucher et al., 2021).

Regardless of country and culture, though, connections between learner empowerment and learning indicators were strong (β = .54 – .72). Given that the primary focus of most instructors is to enhance learning (Ellis, 2000), this suggests that one mechanism through which instructors can better achieve this goal is to focus on empowering learners in the classroom. As Weber et al. (2011) noted, "there needs to be some reaction or change that occurs within the learner that explains how and why learning is influenced" (p. 54). Across samples, results suggested that changes in student feelings of task meaningfulness, personal competence, and perceived impact on the classroom were strong predictors of indicators of learning, ultimately supporting the cornerstone proposition of the IBM and providing additional validity for the model.

Perhaps the most perplexing finding is that the IBM could be replicated in the Finnish and Turkish samples but not in the US sample where it was first developed and tested. As noted, the constructs included in the present test of the IBM have not been explored simultaneously in a full test of the model. So, these results could simply suggest that this combination of variables do not work together to validly predict learning among US students. This illustrates an inherent strength and weakness of the IBM. Because construct categories (e.g. teacher behaviours) could theoretically encompass endless variables, the IBM is adaptable to a wide range of instructional scenarios. However, it seems unlikely that every possible combination of model constructs would result in good model fit when tested statistically, particularly when paths in the model are insignificant or weak like in the US sample. So, while the theoretical scope of the IBM is expanded with the results from the Finnish and Turkish samples, the model's scope is simultaneously constrained with the ill-fitting US model.

Another potential explanation is that the nature of higher education in the U.S. shifted since the inception of the IBM. With nearly 11 years since the initial publication of the IBM, the educational landscape has changed. For example, the generation of students in the classroom is now primarily Gen Z (Cickovska, 2020) who are decidedly different from previous generations of students and face greater mental health and social crises (Beiter et al., 2015). There are higher levels of consumer orientation (Bunce et al., 2017) and entitlement in students (Kopp et al., 2011). Even student-instructor relationships

have changed with a notable erosion of power differences, hierarchy, and authority (Chory & Offstein, 2018). When combined, the model was created and tested in one educational setting and that setting, at least in the U.S., has evolved, creating opportunities for theory testing, critique, and revision.

Theoretical and Practical Implications

Waisbord and Mellado (2014) challenged communication scholars to dewesternize communication theory by using diverse (a) subjects of study, (b) theoretical perspectives, and (c) academic cultures. Building on these three calls, this study offers initial support for the applicability of the IBM across cultures by providing the first tests of the model outside US classrooms. These results are promising in expanding the scope of the IBM for understanding the higher education classroom regardless of culture and national location. In fact, this study provides one of the few non-US tests of a theory developed specifically in the subdiscipline of instructional communication. In support of Weber et al.'s (2011) argument that the IBM is holistic, our data support its breadth and comprehensiveness through the expanded scope in multiple and diverse cultural contexts. This propels the IBM away from what Wang (2014) would call a culture-specific theory and towards a culture-general theory – one that is more universal than particular.

Practically, this research suggests several teaching behaviours may be influential across cultures and within increasingly diverse classrooms. Despite the insignificant relationship between relevance and empowerment in the US sample, the implementation of relevance and justice are generally useful for positively influencing student instructional beliefs, regardless of location or cultural background. Further, the strong and consistent paths between empowerment and perceived learning highlight an area where instructor efforts should be especially focused. Finding ways to make information, course work, and relationships meaningful, helping students to feel competent, and giving opportunities for impact on their educational journey will lead to positive learning outcomes. Extant literature suggests that empowerment may be enhanced by promoting student autonomy, providing challenges, encouraging curiosity in the material, and emphasizing the functionality and applicability of the information (Schiefele, 1991). These strategies appear to be based on instructor behaviour, and as such, may be fruitful behaviours to examine in the context of the IBM in place of the relevance construct. This research has implications for a truly intercultural classroom. Although instructor behaviours were important to facilitating instructional beliefs in students, the relative weight of the influence differed by culture as did the motivation within each nationality. In an intercultural classroom, it becomes critical for an instructor to acknowledge varying levels of motivation and to broaden their repertoire of instructional behaviours to be tailored to each nationality to achieve equal learning outcomes for all students present in the classroom.

Limitations and Future Directions

Although this study makes several unique contributions, it should be interpreted in light of its limitations. The first, and most obvious, limitation is the differences in data collection among samples (i.e. online survey vs. paper survey) and differences in sample

demographics. Although methods were chosen to be culturally appropriate for each university and student population, collection strategies could have impacted results. Second, this study only examined a limited number of constructs and thus did not explore all possible iterations of the IBM. Testing other variables of interest (e.g. self-efficacy, instructor immediacy) would provide further insight into the validity of the model. Third, the cultures represented here are not exhaustive. This study also included three cultures, intentionally chosen for their cultural differences, but is not representative of all of the potential contexts and students who may be involved in the increasingly global higher education system. Future research should continue to test the IBM in its entirety in non-US classroom to further solidify the theoretical constraints and parameters of the model. Relatedly, the model should be tested in an intercultural classroom, where the teacher and student nationalities may differ. Fourth, all data was collected pre-Covid and in reference to in-person traditional classrooms. The rapid shift to primarily online teaching during a pandemic in many countries has likely affected instructor-student communication, student instructional beliefs, and learning priorities and outcomes.

Fifth, and perhaps most importantly, Croucher and Kelly (2019) argued that survey translation is an inherently flawed process, limiting the strength of these findings. Scales derived in the US bring cultural bias, highlighting communication behaviours and attitudes embraced by US samples but not necessarily from those in other cultures (Zhang & Oetzel, 2006). It is entirely likely, for example, that the classroom environment in a particular culture does not enable or provide space for students to practice empowered learning as operationalized in this study. However, there may be other communication behaviours or attitudes not captured by Frymier et al.'s (1996) scale that would represent learner empowerment in a culture that do not apply to US students. Ultimately, to best measure constructs in every culture, measures should be inductively derived in each new national context to promote optimal measurement validity and conceptual alignment (Zhang & Oetzel, 2006). Relatedly, because of the small samples size for each country (see DeVellis, 2017), the present study did not explore the factor structure of the instruments. Future research should use confirmatory factor analysis procedures to provide additional construct validity for the measures, particularly those that were translated.

Conclusion

Collecting data from non-US student populations and translating English instruments into foreign languages can be complex and time-consuming. Likewise, truly testing, developing, and extending theories and models can be cumbersome and formidable for instructional communication researchers. However, to bolster our subdiscipline and increase the reputation of our field both nationally and internationally, culturally- and theoretically-driven research should be a primary focus for instructional communication researchers. Without responding to decades of repeated critiques of our research, we run the risk of having instructional communication research defined by its shortcomings rather than using this constructive commentary as an opportunity for refinement and redefinition.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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