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DIFFERENCES IN AMERICAN AND TURKISH PRESERVICE TEACHERS' BELIEFS ABOUT THE EFFECTIVENESS OF CLASSROOM MANAGEMENT PRACTICES

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ABSTRACT

The aim of this study was to understand preservice teachers' beliefs about different classroom management practices. The self-report *Classroom Management Practices Effectiveness Beliefs Survey* was developed after reviewing literature from the United States and Turkey. Different factor structures emerged from exploratory factor analyses of data collected from American (*n*=708) and Turkish (*n*=545) preservice teachers (PTs), demonstrating a need for caution in overgeneralizing frameworks of classroom management strategies across cultures. Three of four factors emerged with conceptual overlap, including harsh/critical practices (highly ineffective), behavior management using rewards (highly effective), and preventative classroom management (highly effective). However, one factor in each country was not replicated, indicating cultural differences between American and Turkish PTs' beliefs regarding effective classroom management strategies. American PTs rated authoritarian practices moderately ineffective. Turkish PTs considered behavior management using punishment to be neither ineffective nor effective classroom management practices. Implications of cross-cultural differences are discussed.

Keywords: Classroom management; College students; Cross-cultural comparison; Factor analysis; Preservice teachers; Scale development/testing

INTRODUCTION

Classroom management, the practices by which a teacher supervises student interactions, learning, and behavior, is a vital aspect of teaching (Martin & Baldwin, 1993). The quality of instructional time can be enhanced by effective classroom management techniques (Brinkerhoff & Roehrig, 2014), and classroom management interventions have even been found to improve students' academic outcomes (e.g., Freiberg, Huzinec, & Templeton, 2009). However, even experienced teachers find classroom management (CM) stressful regardless of culture (e.g., Brouwers & Tomic, 2000, in the Netherlands; Friedman, 1995, in Israel; Ozdemir, 2007, in Turkey). Thus, it is unsurprising that many novice and preservice teachers (PTs) identify CM as one of the most problematic areas of teaching (Fuller, 1969; Giallo & Little, 2003; Hertzog, 2002; Meister & Melnick, 2003). For example, Smart and Igo (2010) found first-year teachers could effectively manage mild misbehavior but not more severe behaviors, which they suggested stems from a lack of training. Since the quality of classroom management plays a central role in

the lives of both teachers and students, exploring which CM practices (CMPs) PTs believe are effective is important.

Perceptions of effective CM in different cultural contexts also should be explored to prevent over generalization of results between cultures, as theories and findings from one culture may not apply to another. Most cross-cultural CM research has focused on teachers' preferences or beliefs about their ability to use different CMPs. For example, Australian, Chinese, and Israeli students' perceptions of their teachers' discipline practices have been compared (Lewis, Romi, Qui, & Katz, 2005). Australian classrooms were considered more punitive and aggressive than Israeli and Chinese classrooms, and in all countries, teachers responded to increased student misbehavior using increasingly aggressive strategies (Lewis et al., 2005). However, it is still unknown which strategies teachers believe to be the most effective across cultures.

Teachers' self-reported use of management procedures in the U.S. and Greece have also been compared (Akin-Little, Little & Laniti, 2007), as have U.S. and Korean teachers' beliefs about and use of student management strategies (Shin & Koh, 2007). Compared to Korean teachers, American teachers generally tended to more strongly agree "that they exercised more controls and interventions in student management." Examples included requiring student "compliance and respect for law and order" and announcing the rules during the first week of class (Shin & Koh, 2007, p. 297). Greek teachers were significantly less likely to report discussing classroom rules the first week and less likely to post rules in the classroom when compared to U.S. teachers (Akin-Little et al., 2007). These results reveal American teachers are likely to post and discuss rules, but they do not indicate whether they believe this practice is the most effective way to manage behavior.

While some differences in CM use across cultures have been found, such as likelihood to use punitive, aggressive, or preventative behavior strategies, teachers' perceptions of the *effectiveness* of different practices have rarely been addressed. To date, this research speaks to the frequency of strategy use, not the perceived effectiveness. To fill this gap in the literature, we explored PTs' perceptions of the effectiveness of CM strategies. PTs' perceptions are important because they may offer an important opportunity for development during training.

Cultural differences concerning the effectiveness of CM strategies may also have implications for culturally relevant PT training. However, no existing instruments were available to assess PTs' beliefs about the effectiveness of CMPs, let alone any validated for cross-cultural use. Thus, a primary goal of this study was to develop a survey of PTs' beliefs regarding the effectiveness of CMPs, establish the reliability and the factor structure of the survey for American and Turkish PTs, and describe the beliefs of PTs in each sample.

BACKGROUND AND CONTEXT

Development of the *Classroom Management Practices Effectiveness Beliefs Survey* began with a review of existing Turkish and English literature concerning different conceptualizations of CM. For example, we generated lists of practices based on many theories and typologies included in Evertson and Weinstein's (2011) *Handbook of Classroom Management*, as well as dimensions of parental discipline (Straus & Fauchier, 2005), and Turkish research on discipline (e.g., Özcan, 2008; Sarıtaş, 2006). In Turkish studies, categories of practices included revengeful, punitive, and corrective, among other dimensions, including preventive strategies (Sarıtaş, 2006).

Effective CM is commonly conceived of as a multidimensional construct. For example, Martin and Baldwin (1993) proposed three components of effective CM: personal (e.g., teacher beliefs about students and the classroom climate), instructional (e.g., teacher behaviors, like routines for students and arrangement of the classroom), and disciplinary (e.g., establishing and

enforcing rules for students). In terms of the teacher's role, effective CM is often conceptualized as including both proactive and reactive teacher behaviors. Proactive strategies involve teacher precautions, and, in this view, even reactive behaviors may be considered proactive if the teacher planned for them in advance (Evertson & Poole, 2008). On the other hand, less effective practices include those that are authoritarian (i.e., strictly enforced rules and controlling practices, and little warmth expressed; Walker, 2008).

A substantial body of research demonstrating the effectiveness of different practices or programs for reducing problem behaviors of children in the U.S. exists (e.g., Bear, 1998; Doyle, 1992; Evertson, Emmer, & Worsham 2006; Good & Brophy, 2003). The U.S. Department of Education's What Works Clearinghouse published a practice guide—a research synthesis for a practitioner audience—about reducing behavior problems in elementary schools (Epstein, Atkins, Cullinan, Kutash, & Weaver, 2008). Recommendations include clearly describing problem behaviors and analyzing the environmental context in order to identify behavioral antecedents, actively changing the learning environment, and teaching new skills to increase positive behaviors and maintain a positive classroom climate (Epstein et al., 2008).

Some qualitative studies have explored the applicability of U.S. practices in Turkey (Cicek, Ulker & Karakus, 2012) or differences between students' behavior and teachers' management in British versus Turkish classrooms (e.g., Atici & Merry, 2001; Turnuklu, 1999). However, we could identify no quantitative, cross-cultural comparisons of the effectiveness of different CM techniques in Turkey versus the U.S.. The preponderance of CM research conducted in Turkey and published in English has examined Turkish teachers' attitudes and beliefs about CM. For example, Martin et al.'s (1998) survey of *Attitudes and Beliefs on Classroom Control Inventory* was translated into and validated for the Turkish population by Gencer and Cakiroglu (2007), using principal component analysis and reliability studies, items with loadings less than .30 were removed. Further details about the translation process were unavailable. The translated survey was later used by Unal and Unal (2009) to examine Turkish teachers' and PTs' preferences for CMPs; the factor structures were very similar across Turkey and the U. S.

Turkish culture is diverse, representing an intersection of Eastern and Western influences with Middle Eastern roots (Ataca, 2006). Given Turkey's diversity, it is possible to see differences in beliefs of teachers within the Turkish culture. At a minimum, teachers may vary in their preferences for types of CMPs based on their amount of experience (Unal & Unal, 2009).
Furthermore, Yilmaz's (2009) survey of Turkish primary teachers regarding their CM profiles and control ideologies suggested that while most preferred an authoritative style in theory, those who had higher pupil control ideology (i.e., strict rule enforcement) were more authoritarian in practice. None of these studies, however, explicitly investigated what practices teachers thought were more effective.

While evidence from research conducted in the U.S. is converging on the efficacy of proactive practices and establishing a caring, cooperative climate (e.g., Allen, Pianta, Gregory, Mikami, & Lun, 2011; Freiberg et al., 2009), there are individual preferences and contextual variations. For example, rural postsecondary teachers are more likely to allow freedom in the classroom, as a rural community climate exists wherein students know to behave because they interact with teachers outside the classroom; whereas, urban teachers require stringent rules, as they are unlikely to interact with students or parents outside of school (Martin & Yin, 1999). A major point of contention, predominately in southern U.S. states, is the use of corporal punishment. In 2006, the National Association of School Psychologists (NASP) issued a position statement indicating it was firmly against the use of corporal punishment in schools (NASP, 2006). Despite this position, corporal punishment remains legal in 19 states (Global Initiative to

End All Corporal Punishment of Children, 2016), and the majority of reported instances of corporal punishment come from the rural south (Dupper & Dingus, 2008).

Previous research on U.S. and Turkish teacher beliefs about CM has focused primarily on self-efficacy (e.g., Gencer & Cakiroglu, 2007; Hertzog, 2002). According to Bandura (1982), "perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations" (p. 122). For teachers, this concept relates to how well they *believe* they can handle classroom situations. For example, Reupert and Woodcock (2010) found PTs perceived themselves as equally proficient in preventative and initial corrective strategies, but favored initial corrective strategies over preventative, reward and later corrective strategies in practice. PTs often have high self-efficacy beliefs during training that decline after their first year of teaching (Hoy & Spero, 2005), suggesting self-efficacy beliefs are not always indicative of performance. Given that teachers are likely to use strategies aligned with their self-reported beliefs (Clunies-Ross et al., 2008), we instead examined American and Turkish PTs' beliefs about the effectiveness of classroom management strategies, rather than their self-efficacy or intentions to implement CMPs.

METHOD

Measure development

The *Classroom Management Practices Effectiveness Beliefs Survey* was developed to represent a wide range of theoretical and cultural perspectives on CM strategies. We included practices with empirical evidence of effectiveness for improving student behavior, as well as those demonstrated to be ineffective. The types of management practices conceptually represented in the measure were *Preventative*, such as "Creating a warm classroom environment" and "Identifying desirable behaviors"; *Neglectful*, such as "Tolerating disorder in the classroom" and "Not having rules for students"; *Revengeful*, such as "Bullying the student who misbehaves" and "Holding back affection from students who misbehave"; *Rewards*, such as "Giving students rewards for behaving well" and "Rewarding approximations of desired behaviors"; *Punishments/Consequences*, such as "Giving students extra homework when they misbehave" and "Sending a misbehaving student to the principal's office"; and *Threats*, such as "Threatening to report misbehaving students to their parents" and "Threatening to use physical/corporal punishment when students misbehave".

We developed these categories after examination of Turkish and English CM literature. Items were prepared using question writing methods proposed by Crocker and Algina (1986), DeVellis, (2003), Gable (1986), and Tekindal (2012). We wrote a number of items related to every category. In total 205 items were written. Item wording and content validity were evaluated by all authors, and edits and cuts were made as needed until the measure was reduced. PTs were asked to rate the effectiveness of 96 CM strategies for improving student behaviour on a five-point Likert scale (1=very ineffective, 2=somewhat ineffective, 3=neither ineffective nor effective, 4=somewhat effective, 5=very effective).

Survey validity and reliability

We initially wrote items in English. Then we established conceptual correspondence between the English and Turkish language versions via back translation conducted by a native Turkish speaker. In both the paper and online versions, we created multiple forms of the survey with items presented in different random orders. One item in the Turkish survey, "Enforcing rules consistently", had an extremely poor response rate (6%) and was subsequently dropped from both data sets.

Self-reports of socially undesirable activities, such as CM strategies that may be perceived

negatively, are prone to social desirability bias (SDB) (e.g., Fisher & Dubé, 2005; Miller, 2011; Silvera, Cronley, & Neeley, 2007). SDB is defined as the tendency for respondents to over-report positive beliefs or behaviors and under-report negative ones (Silvera et al., 2007). Indirect questioning can reduce SDB by asking participants to think of situations in general, rather than how they apply to the participant (Fisher, 1993; Myung-Soo, 2000; Silvera et al., 2007). We designed our survey with preventative SDB practices in mind. We asked PTs to rate how effective they thought the practices were in general. For example, asking PTs if they believe threatening students with corporal punishment is effective assesses whether they think this practice would stop a student's undesirable behavior rather than directly asking if they would use corporal punishment or believe it to be morally or politically correct.

Participants

Data were collected simultaneously from 708 U.S. PTs (136 males, 572 females; 96% ages 18-25) and 545 Turkish PTs (116 males, 428 females; 97% ages 18-25). The American PTs attended a large Southeastern university and completed the anonymous survey online. Turkish PTs completed an anonymous paper survey administered at a large, public university in northwestern Turkey. Turkish PTs were from several teacher education programs: Counseling, n=73; Elementary, n=53; English, n=64; Secondary Mathematics, n=175; Secondary Science, n=131; and Turkish, n=49. PTs in America were seeking certification in Early Childhood, n=20; Elementary, n=146; English as a Foreign or Second Language, n=12; Music Education, n=2; Secondary, n=192; Special Education, n=48; Not Specified, n=257; and Other, n=26. Data collection started after approval was obtained from the Institutional Review Board (U.S.) and the College of Education Dean (Turkey). Participants granted informed consent before completing the survey. All subjects were volunteers, whose demographics were representative of those majoring in education at their respective universities.

Analytic strategy

We initially analyzed the data using EFAs on random half-samples from both countries followed by confirmatory factor analyses on the other half of each sample[1]. These analyses were not fruitful due to sample size constraints, differing factor structures, and potentially other factors (e.g., cultural interpretations).

We then used independent exploratory factor analyses (EFAs) to analyze data from the full samples of each country. The criteria used in our decisions included using Direct Oblimin rotation (we assumed types CMPs to be inter-correlated; this assumption is met if factor correlations are greater than .32; Brown, 2009). Eigenvalues were set to be greater than two, as eigenvalues greater than one initially resulted in twenty or more factors (lacking interpretable meaning). We removed any items that cross-loaded or had a loading less than 0.5 in the pattern matrix (Costello & Osborne, 2005). We only retained factors with three or more items, as two items do not sufficiently measure a construct reliably (Little, Lindenberger, & Nesselroade,

[1]Independent EFAs were run on randomly selected half samples from both countries. Conceptually and mathematically the factors were different between the two countries: the first U.S. factor included 32 items, the second 18 items; the first Turkish factor included 26 items, the second 6 items. Independent CFAs using Mplus (Muthen & Muthen, 2011) were run using the other half of the data not used in the EFAs. The U.S. results indicated the 2-factor model did not fit the data well, χ^2 (2344)=9923.18, p< .01, CFI=.75, TLI=.74, RMSEA=.09, and WRMR=3.04. Similarly, the Turkish CFA indicated misspecification, χ^2 (463)=1251.23, p< .01, CFI=.91, TLI=.90, RMSEA=.08, and WRMR=1.51.

1999). In addition to the EFA pattern matrices, we consulted item-total correlations, as well as inter-item correlations when examining subscales. We calculated Cronbach's (1951) alphas as a measure of internal consistency (see Table 1).

RESULTS

The results of all full-sample EFA iterations and sub-scale reliabilities are presented in Table 1. In the Turkish sample, the result was a 4-factor model including 22 items, which cumulatively explained 59.59% of the variance (see Table 2 for variance explained by each factor). In the U.S. sample, the result was also a 4-factor model with 17 items, which cumulatively explained 69.92% of the variance (see Table 3 for variance explained by each factor). In both samples, the majority of factors were significantly inter-correlated ($p < .001$; see Tables 2 and 3). The only exception to this pattern was that Turkish Factor-2 was not significantly correlated with Turkish Factor-3 or Turkish Factor-4. In terms of the composition of factors, only six items overlapped between the U.S. and Turkey (see Table 4).

Table 1: *EFA and reliability analyses of the full samples*

US			Turkey		
Procedure	Data	Conclusion	Procedure	Data	Conclusion
EFA	Full Sample, *i* = 96	5 Factors; 61 item loadings < .5	EFA	Full Sample, *i* = 96	5 Factors; 67 item loadings < .5; only 1 item in Factor-4
Reliability	5 Factors; *i* = 35	Scale α =.804 Factor-1 (7) α =.928 Factor-2 (6) α =.749 Factor-3 (6) α = .877 Factor-4 (2) α = .485 Factor-5 (12) α =.920	Reliability	4 Factors; *i* = 27	Scale α = .668 Factor-1 (8) α =.906 Factor-2 (5) α =.797 Factor-3 (8) α = .827 Factor-4 (6) α = .417
EFA	Removed 1 item from Factor-1, all items from Factor-4 *i* = 32	4 Factor Solution; 11 item loadings < .5	EFA	*i* = 27	5 Factors; 5 item loadings < .5
Reliability	4 Factors; *i* = 17	Scale α =.676 Factor-1 (5) α = .837 Factor-2 (6) α = .749 Factor-3 (6) α = .936 Factor-4 (4) α = .859	EFA	*i = 22*	4 Factors
EFA	Removed 11 items, *i* = 17	4 Factor Solution	Reliability	4 Factors; *i* = 22	Scale α = .694 Factor-1 (8) α =.906 Factor-2 (5) α =.797 Factor-3 (6) α = .824 Factor-4 (3) α = .758
Reliability	4 Factors; *i* = 17	Scale α = .608 Factor-1 (6) α = .936 Factor-2 (4) α = .752 Factor-3 (4) α = .859 Factor-4 (3) α = .758			

Note. i= item; tests are listed by country in the order in which they occurred; the number of items in each factor is listed in parentheses.

Table 2: *Factor means and correlations for Turkey*

	Means (*SD*)	% Variance Explained	Factor-1	Factor-2	Factor-3	Factor-4
Factor-1	1.33 (.614)	33.690	1	.294**	-.276**	-.608**
Factor-2	2.77 (.735)	12.395		1	.103	-.029
Factor-3	4.21 (.600)	6.982			1	.476**
Factor-4	4.60 (.537)	6.519				1

Note. ** indicates significance at the .001 level.

Table 3: *Factor means and correlations for the U.S.*

	Means (*SD*)	% Variance Explained	Factor-1	Factor-2	Factor-3	Factor-4
Factor-1	1.24 (.618)	43.074	1	-.250**	-.608**	.585**
Factor-2	4.24 (.660)	12.845		1	.378**	-.152**
Factor-3	4.73 (.504)	7.315			1	-.484**
Factor-4	1.67 (.761)	6.682				1

Note. ** indicates significance at the .001 level.

We decided on appropriate factor names through discussion and a review of teacher-student behaviors/practices (e.g., Rimm-Kaufman & Sandilos, n.d.). Factor-1 in both samples seemed to describe harsh and punitive practices and shared three items. We named this factor *Harsh/Critical Practices*, consistent with the concept of harsh/critical parenting (e.g., unreasonable punishments, threats). Webster-Stratton, Reid and Stoolmiller (2008) tested teacher and child training programs and found that when teachers' harsh/critical practices were reduced, students' socio-emotional and behavioral outcomes improved. Accordingly, both the U.S. (M = 1.24) and Turkish (M = 1.33) PTs believed these strategies were ineffective.

Factor-2 in the Turkish sample included threatening and punishment behaviors (e.g., "Having students perform undesirable tasks as a form of punishment") was named *Behavior Management Using Punishment* as described by Maag (2001). The Turkish PTs reported this type of management to be neither ineffective nor effective (M = 2.77). Factor-2 in the U.S. sample included rewarding behaviors (e.g., "Providing frequent reinforcement for positive behavior") and was named *Behavior Management Using Rewards* as described by Reupert and Woodcock (2010). The U.S. PTs reported that *Behavior Management Using Rewards* was highly effective (M =4.24).

Table 4: *Item factor loadings for the final 4-factor models in the full Turkish and U.S. samples*

Items	*Harsh/Critical Practices*		*Behavior Management Using Punishments*	*Behavior Management Using Rewards*		*Preventative Behavior Management*		*Authoritarian Practices*
	Factor-1 Turkey	Factor-1 U.S.	Factor-2 Turkey	Factor-3 Turkey	Factor-2 U.S.	Factor-4 Turkey	Factor-3 U.S.	Factor-4 U.S.
Bullying the student who misbehaves		.81						
Intimidating students by using emotional abuse in the classroom		.78						
Being emotionally unpredictable		.72						
Falsely accusing students to get back at them	**.78**	**.82**						
Mocking students who misbehave	**.74**	**.77**						
Threatening a student who misbehaves with violent epithet	**.71**	**.90**						
Threatening to use physical punishment when students misbehave	.75							
Using sarcastic language toward students when they misbehave	.73							
Nitpicking students' behaviors	.72							
Implementing discipline rules in an unfair manner	.61							
Belittling a student who shows unwanted behaviors	.60							
Threatening to report misbehaving students to their parents			.82					
Sending a misbehaving student to the principal's office			.56					
Having students perform undesirable tasks as a form of punishment			.59					
Giving students extra homework when they misbehave			.60					
Intimidating students by threatening to lower their grades			.70					
Providing frequent reinforcement for positive behavior					.65			
Providing predictable reinforcement for positive behavior				**.76**	**.74**			
Using an individual behavior modification system involving rewards				**.69**	**.57**			
Giving students rewards for behaving well				**.53**	**.67**			
Rewarding approximations of desired behaviors				.63				
Providing intermittent reinforcement				.61				
Thanking students with other students present when they behave well				.56				
Making sure students understand the contents of each lesson							.84	
Creating a warm classroom environment							.76	
Being honest with students							.64	
Giving students clear instructions							.60	
Displaying classroom rules						.71		
Identifying desirable behaviors						.66		
Monitoring students' behavior						.58		
Showing no empathy for the problems of misbehaving students								.68
Insisting on being right regardless								.62
Holding back affection from students who misbehave								.62

Note. Items in common across the results of both countries are in bold.

Factor-3 in the Turkish sample included rewarding behaviors that overlapped with those in the U.S. Factor-2 (see Table 4). Thus, Turkish Factor-3 was also named *Behavior Management Using Rewards* as described by Reupert and Woodcock (2010). Turkish PTs believed using rewards for behavior management was a highly effective CM practice (M = 4.21). Factor-3 in the U.S. sample portrayed a positive classroom climate (e.g., "Creating a warm classroom environment") and was named *Preventative Behavior Management* as described by Reupert and Woodcock (2010). The U.S. PTs rated these practices as highly effective (M = 4.73).

Factor-4 in the Turkish sample also included positive CMPs (e.g., "Displaying classroom rules") and was named *Preventative Behavior Management* as described by Reupert and Woodcock (2010). Turkish PTs rated these preventative practices as highly effective (M = 4.6). Factor-4 in the U.S. sample described highly controlling practices (e.g., "Holding back affection from students who misbehave") and was named *Authoritarian Practices* as described by Walker (2008). The U.S. PTs reported *Authoritarian Practices* to be ineffective (M = 1.67).

DISCUSSION

In this paper, we describe an attempt to develop a single cross-cultural measure of PTs' beliefs regarding the effectiveness of CMPs. Our intention was to have one measure of CM translated into English and Turkish; however, different factor structures, different cultural conceptualization of items, and few shared items made a single measure impossible. Through many iterations of analyses, we identified a cohesive, four-factor measure for each country, each with reliable sub-scales.

Although we do not know which CMPs are most effective in a Turkish context from intervention studies, the theoretical frameworks were assumed in other studies of teacher beliefs in western literature on CM (e.g., Savran & Çakıroğlu, 2003; Unal & Unal, 2009). Measures of beliefs have primarily been developed based on research conducted in the U.S. and Europe (e.g., Brophy, 1988; Martin, Yin & Baldwin, 1998). Our study suggests a departure from those assumptions. Namely, the two populations surveyed demonstrated different beliefs in terms of CM. In fact, the response patterns indicated different factor structures. This could be a result of different problem behaviors to manage across contexts (Atici & Merry, 2001).

In general, however, the revised measures for each country did share some conceptual overlap. There is only one unique factor that emerged for each country: *Behavior Management Using Punishment* in the Turkish sample and *Authoritarian Practices* in the U.S. sample. While both Turkish and U.S. PTs had the same conceptual Factor-1, *Harsh/Critical Practices*, this factor only shared two items. Moreover, the remaining factors do not align. For example, both U.S. and Turkish PTs had factors associated with *Behavior Management Using Rewards*, which had two items in common across cultures, and *Preventative Behavior Management*; however, these factors did not load in the same order.

Conceptual alignment of factors across samples

As measured by Factor-1, which explained the largest amount of variance in both samples, the U.S. and Turkish PTs believed *Harsh/Critical Practices* to be ineffective CM strategies. This finding is substantiated by Rimm-Kaufman and Sandilos (n.d.) as well as Allen (2010), who indicated such practices may lead to more behavioral outbursts by students in the classroom. Allen's review also highlighted how such punitive practices may promote student victimization, such as bullying, in the classroom.

Both the U.S. Factor-2 and the Turkish Factor-3 conceptually represent *Behavior Management Using Rewards,* which PTs perceived as a highly effective type of CMP. This finding is substantiated by Maag (2001) and Simonsen, Fairbanks, Briesch, Myers and Sugai (2008). Simonsen et al. (2008) identified using rewards to manage behavior as a highly effective, evidence-based CMP for instructors to use.

Both the U.S. Factor-3 and the Turkish Factor-4 conceptually represent *Preventative Behavior Management,* including a variety of strategies such as creating a positive classroom climate, displaying classroom rules, and providing clear instructions. While the strategies in each country do not overlap, they all fall under the umbrella of *Preventative Behavior Management.* Reupert and Woodcock (2010) indicated these preventative CMPs are very effective. Epstein et al. (2008) also designated such preventative practice as having strong evidence using What Works Clearinghouse guidelines. Thus, we believe it is a good sign that both countries' PTs reported these strategies to be highly effective CMPs, though experimental work testing their efficacy in Turkey is still needed.

Cross-culturally different factors

In terms of divergent findings, the U.S. Factor-4 and the Turkish Factor-2 do not align conceptually as the above factors do. The U.S. Factor-4 comprises *Authoritarian Practices*, whereas the Turkish Factor-2 comprises practices related to *Behavior Management Using Punishment.* A cultural difference between the U.S. and Turkey appears between our two non-random samples when considering these distinct factors.

The U.S. Factor-4, *Authoritarian Practices*, includes highly controlling CM strategies considered ineffective by U.S. PTs. This is in-line with Walker (2008), who examined classroom management styles resembling parenting styles and found teachers categorized as authoritarian were more demanding of students and less responsive to student needs. As a result, students engaged in self-handicapping and did not relate to authoritarian teachers (Walker, 2008). Consistent with the research evidence, U.S. PTs believed these CMPs to be moderately ineffective.

PTs considered the Turkish Factor-2, *Behavior Management Using Punishment*, neither ineffective nor effective as a CMP. These punishing and threatening strategies are not considered universally negative (Little & Atkin-Little, 2008), which aligns with the Turkish PTs' responses to these items. Maag (2001), however, pointed out that the use of punishment or negative reinforcement by removing a problem child from a class reinforces a teacher to use this technique and perpetuates a cycle where the problem behavior a student exhibits is not addressed and can recurr.

CONCLUSION AND IMPLICATIONS

Our use of simultaneous data collection in both countries to develop a cross-cultural measure highlights both how similar and different beliefs about classroom management are in the U.S. and Turkey. While the resulting factor structures of the survey are different across cultures, they overlap on three out of four conceptual understandings of CM. Difference in order of appearance in the factor structure indicates how cross-culturally different in importance they are to that culture for explaining effective classroom management. The order of factors between the U.S. and Turkey appears reversed, indicating a possible cultural mindset difference between cultures on CM. While the *Harsh/Critical Practices* factor explained the most variance for both Turkish and U.S. PTs, all other factors differed in relative amount of variance explained. The U.S. factor that explained the second greatest amount of variance was *Behavior Management using Rewards* while Turkey's was *Behavior Management Using Punishments*. The U.S. factor explaining the third most variance was Preventive Behavior Management while Turkey's was *Behavior Management Using Rewards. Finally, the U.S.*

factor explaining the least variance was *Authoritarian Practices* while Turkey's was *Preventative Behavior Management*. The mutual exclusion of one factor per country leads us to the conclusion that we may have different cultural understandings of CM. Thus, we would advise further cultural exploration of the measure including both the Turkish and U.S. items (33 items) to capture a robust understanding of CMPs. Future measurement development work may also help to explain the large amount of unexplained variance still remaining (40% in the Turkish sample; 30% in the U.S. sample) within our samples from each culture.

We also note that punishment is not a universally negative technique and future research of other cultures may inform our understanding of its effectiveness. Past research suggests that sometimes punishment must be used to remove negative behavior (Little & Atkin-Little, 2008). Little and Atkin-Little (2008) gave general criteria for effective punishment: punishments should be selected beforehand and punishment should not be too severe. The uncertainty of PTs regarding punishment/aggressive items may reflect this nuanced nature of effective punishment. These findings suggest an important area that may need to be better addressed in PT training in Turkey.

Now that internally consistent constructs representing types of CM have been identified, more work is needed to establish other types of reliability and construct validity. In terms of reliability, the same samples of PTs were not available to retake the battery of questions. Therefore, we are unable to comment on the change of beliefs over time. Likewise, future research should establish test-retest reliability. Although we started with a large item bank, it is possible the items do not cover all aspects of CM beliefs (content validity). No additional measures were simultaneously collected to establish criterion validity (convergent and discriminant validity). In particular, future research testing theoretical relationships (cf. Roehrig et al., 2012) between PTs' beliefs about pedagogical approaches (e.g., democratic/autonomy supportive instructional practices) and CM factors (e.g., negative relationship with *Harsh/Critical Practices*, positive relationship with *Preventive Behavior Management*) could provide valuable information about construct validity.

We believe international cooperation is integral to better understanding CM and gives voice to cultural differences that define both our shared and unique understandings of effective CM. Future research could compare data from practicing U.S. and Turkish teachers, including the relationship of their beliefs to their actual practices and implementation of any school-wide behavior management interventions. Future research could also address cultural response patterns via differential item functioning. As more data are collected to establish evidence of construct validity, comparisons between more cultures and subcultures within countries should also be explored.

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