Exploring the Factor Structure of the Parent Reading Belief Inventory (PRBI): Example of Serbia

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In the present study we explored the core factor structure originally proposed by the developer of the Parent Reading Belief Inventory (PRBI) DeBaryshe (DeBaryshe & Binder, 1994; DeBaryshe, 1995). The PRBI was developed to assess and explore parents' beliefs about reading aloud to their children, measuring parents' attitudes and perceptions about how children learn, the content of their learning and parental efficacy in the process. The PRBI is supposed to have 7 underlying subscales and a total score. Using a sample of 227 parents in Serbia our analyses showed internal consistency estimates were not in line with those reported by the authors of the PRBI. Using confirmatory factor analysis the subscale models showed substantial variance in how well they fit. Better fit was found for the overall models for the entire PRBI scale. Among them, the correlated factors model exhibited the best fit indices. Limitations and future research are discussed.

Keywords: *parents' literacy beliefs, PRBI, SEM*

Concept of emergent literacy is based on the assumption that the process of literacy starts in early childhood, long before a child steps in school, and that it serves as a basis for a lifelong learning process. It is defined as a composite phenomenon that includes knowledge and skills related to development of oral language, meta-linguistic awareness and written language in children, aged 0–5 years (Snow, 2004). Over the past decade importance of the home environment to children's emergent literacy development has thoroughly been documented (e.g. Dickinson & Tabors, 1991; Snow, Barnes, Chandler, Goodman & Hemphill, 1991; Beals & De Temple, 1993; Sonnenschein, Brody & Munsterman, 1996; Christian, Morrison &Bryant, 1998; Burgess, Hecht & Lonigan, 2002). It has been demonstrated how income and parents' literacy levels, as well as own literacy habits (personal enjoyment of reading and time spent in reading) are related to positive reading outcomes for the children. Furthermore parent–child joint engagement in literacy activities at home facilitates children's development of oral language and other antecedents of literacy.

On the other hand parents' beliefs on their child's literacy development and how these beliefs are connected with other aspects of home literacy

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environment are explored a good deal less. While some parents may strongly believe it is on them to actively participate and facilitate language development of their children, other parents may attribute this role entirely to the teachers or other level educators. At the same time whilst parents may hold important development of child's literacy, they can also observe it as a mere chance to further bond with their children through literacy related activities (e.g. storybook reading). Some studies contribute to the stand that parents' literacy beliefs can vary substantially, significantly influencing learning potentials of the home environment (Wasik & Hendrickson, 2004; Curenton & Justice, 2008), as well as that diversity in parent literacy beliefs have consequences of what children actually learn and do at home (DeBaryshe, Binder, & Buell, 2000; Wasik & Hendrickson, 2004).

Literature contributes an image that beliefs are part of a group of constructs that describe structure and content of person's thinking presumed to drive his/her actions (Nespor, 1987; Pajares, 1992; Bryan & Atwater, 2002; Evans, Fox, Cremaso & McKinnon, 2004). Da Ponte (1994; in Andrews & Hatch, 1999) describes them as incontrovertible personal thrusts that are held by everyone, deriving from experience or from fantasy, having a strong affective and evaluative component. Thus parents' beliefs ''are presumed [to be] causative factors influencing the course of children's development'' in relation to child-rearing practices (Sigel & McGillicuddy-De Lisi, 2002, p. 486). The authors further argue that parental beliefs about literacy tend to evolve, while forms of their appearance arise from personal histories, cultural norms, and parent–child interactions and are expressed as a personal act or action(s). So far research of parental beliefs about literacy have for the most part been driven by hypotheses on the value of the environment parents provide, their practices related to parenting, and parent–child interactions as the most direct expression of the beliefs parents posses (DeBaryshe, 1995; Goodnow, 2002; Weigel, Martin & Bennett, 2006b). Sigel and McGillicuddy-De Lisi (2002) state parents' beliefs to be the starting point for all experiences the parents have with their children. While beliefs provide guides to action, at the same time they are shaped by the action itself.

Scarce studies, investigating directly parental beliefs about their role in the literacy development of their children, have shown specific patterns in parents beliefs do emerge. For example in the study of Evans and colleagues (Evans et al., 2004) parents were surveyed regarding their beliefs about how children should be taught to read. Two groups of parents were found, the so-called 'grapho-phonemic' (parents rated phonics, exploring words, and using books with structured vocabulary and familiar spelling patterns as most important), and 'constructivist' (parents believed the very best way to teach reading is for the child reader to rely on his general knowledge of the world, the language, picture clues, and the context of the text). In another study Sonnenschein and colleagues (Sonnenschein, Baker, Serpell, Scher, Goddard-Truitt & Munsterman, 1997) explored parents' views on effective ways to help one's pre-school child learn to read. Two orientations among the parents were found, the 'entertainment

orientation' (endorsing belief how engaging in literacy activities can be a source of entertainment for the child) and a 'skills orientation' toward literacy development (endorsing belief how engaging in literacy acquisition is hard work and parents role is on deliberate promotion of a set of skills). Sonnenschein et al. (1997) further found that an entertainment orientation was generally predictive of emergent literacy competency in pre-kindergarten and kindergarten age children.

The importance of parental literacy beliefs hinges on the fact that the home environment is the scenery in which children encounter adult-mediated language and literacy experiences for the first time (Honig & Shin, 2001; van Kleeck, Stahl& Bauer, 2003; Weigel, Martin, & Bennett, 2006a, 2006b). Due the widespread assumption that exposing children to home environment rich in literacy practices benefits child's literacy development (Burgess et al., 2002) understanding parental literacy beliefs is of particular interest. Nevertheless, few tools with reported score reliability are available for measuring productive home literacy environment and accompanying beliefs parents hold on the subject.

Parent Reading Belief Inventory (PRBI) initially proposed by DeBaryshe and Binder (DeBaryshe & Binder, 1994; DeBaryshe, 1995) measures parents' beliefs about their roles as teachers of school-related skills, positive affect related with reading, the value parents place on children's active verbal participation when reading aloud, the aptness of direct reading instruction, whether children gain knowledge from books, whether limited resources in the environment may present as an obstacle to reading, and the flexibility of language development. In the initial study DeBaryshe has made in order to test a model she proposed, a strong link between specific beliefs (e.g., parent literacy beliefs) and behaviours (e.g., reading socialization practices) was found. More specifically, DeBaryshe (1995) established that participatory parental beliefs in line with emergent literacy, and developmentally suitable practice were very predictive of the level to which parents exposed their children to joint storybook reading, the quality of these reading interactions, and children's overall interest in books.

In several studies PRBI's total score was used to examine the link between parental beliefs and child's literacy outcomes. Weigel and colleagues (2006a) used cluster analysis to identify two PRBI maternal literacy belief profiles using a sample of mainly Caucasian middle-class mothers. Two profiles were established, facilitative and conventional one. Further analyses showed that facilitative mothers have more literacy-enriched homes, while their children exhibit a more advanced print knowledge skills and interest in reading. Using the same set of data, Weigel et al. (2006b) also found that parental literacy routines were positively related to parental beliefs, meaning that beliefs parents hold were consequently related to facilitative parent–child activities, and that parent–child activities were positively related to print knowledge and interest in reading. Respectively, using a sample of Latino and African American families, Gonzalez, Rivera, Davis, and Taylor (2010) found that more educated mothers provided more enriched home literacy environments. The more enriched the environment was, their maternal facilitative reading beliefs on the PRBI were more positively affected. Analysis also showed facilitative beliefs mothers

possessed were related to higher child expressive vocabulary scores. Using PRBI translated into Mandarin Chinese with the sample of well-educated middle-class Taiwanese mothers, Wu and Honig (2010) found that the composite score of the PRBI highly correlated with family income, maternal education, as well as mother and child's literacy-related activities. No relationship was found with any of the independent subscales of the PRBI.

The above mentioned studies show that parents' beliefs about reading can contribute to further explanation of associations between home literacy environment, parents' activities and children's emergent literacy skills. However there seems to be very little information to corroborate on the DeBaryshe and Binder (1994) factor structure. Two available (at least to the authors of this text) published studies attempting to replicate the structure are a recent study by Wu and Honig (2010) and Gonzalez, Taylor, Davis, and Kim (2013).

Wu and Honig (2010), using a sample of 731 well-educated middle-class mothers, conducted a principal component analysis using Varimax rotation founding support for eight first-order factors[1]. These were knowledge-gains from reading storybook (ά=.90), affect-negative (ά=.80), verbal participation-reading techniques (ά=.83), efficacy about parental role in general (ά=.69), efficacy regarding parent role before school (ά=.62), affect positive (ά=.63), environment input-genetic (ά=.45), and reading instruction-teaching before school (ά=.65). Out of 42 original items, a total of 32 were kept in the eight factors structure. For each of the eight factors, a subscale score was calculated from the items belonging to the factor in question. Following a second-order principal components analysis was undertaken to establish whether the eight factors were represented by a second-order factor (which is suggested by the use of a single score). Nevertheless instead of one, the second-order analysis, supported for two higher order factors. Factor 1 contained five of the original eight subscales: knowledge participation, positive affect, efficacy for parental role in general, and reading instruction (41.6% of the variance). Factor 2 was comprised of dimensions efficacy for parental role prior to school and environment input (13.1% of the variance). Due cross-loading on both higher order factors subscale negative affect was dropped. As there was a significant difference for the accounted variance between the two established second-order factors (41.6% vs. 13.1%) Wu and Honig concluded the five factors loading on the first second-order factor best represent parental beliefs. Thus a total of 24 items were kept. Despite the fact Wu and Honig (2010) study provides important information related to PRBI underlying structure as well as the cross-cultural application of the inventory, the study itself does posses several methodological flaws. The most important one is that the study itself did not attempt to validate the originally proposed structure of the PRBI with its seven subscales. Also, authors chose to explore the structure using exploratory factor analysis although confirmatory factor analysis (CFA) is considered as the analysis of choice in the matter as it provides an opportunity of exploring latent variables and path

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1   Entire PRBI will be elaborated in more detail in the methodological section of this article.

analysis for testing assumed models and discovering relationships between manifest and latent variables (DiLalla, 2000). Thus based on confirmatory factor analysis researchers are able to investigate and test whether variances and covariances in the covariance matrix mach the specified structure (Bentler & Bonett, 1980; Bentler & Mooijaart, 1989). Furthermore the choice on how many factors to keep in the analysis is based on the Eigenvalues larger than 1 criterion, often leading to retaining too many factors if used as the sole criterion. Also, solutions were rotated using Varimax rotation method, that ignores the connections between the factors, which should have been explored as all the items in the PRBI are designed to measure a single construct.

The study of Gonzalez et al. (2013) tries to overcome above mentioned weaknesses. For that purpose authors use confirmatory factor analysis with the aim to evaluate how the underlying beliefs measured by the PRBI reflect the a priori dimensions originally proposed by DeBaryshe (1995). The sample in the Gonzales et al. study consisted of 136 parents of mostly Hispanic and African American origin (about 80% of the sample). Analyses showed internal consistency estimates were similar and comparable to those reported by DeBaryshe and Binder (1994), ranging from .68 to .83. Using confirmatory factor analysis, a good fit was found for only 2 of the 7 dimensions (reading instruction and resources). The knowledge base, verbal participation, and positive affect subscales fit less well. Lastly, the teaching efficacy subscale fits very poorly. Results have also indicated a poor fit for overall models for the entire PRBI scale when modelled using a 2nd-order factor, correlated factors, or a single general factor. Considering the small sample size used in the study (136 parents) one can question the poor fit of the overall models. This included Gonzales et al. as well, who responded to this concern by creating a series of sub-models from the overall correlated factors model in order to examine their fit in comparison to the fit of the overall model. The idea behind it is that if a small sub-model fits well, but larger ones does not, this would mean that the small sample size affected fit for the overall models. If on the other hands small sub-models fit poorly while a fit gradually declined with the increasing size of the model, such a result would suggest that the poor fit of the overall models was not due to the small sample size. After a series of sub-models were constructed (including all possible subsets of the seven subscales), the authors finally concluded results of the poor fit for the overall models was not due the small sample size (Gonzales et al., 2013).

In their exploratory factor analysis, DeBaryshe and Binder (1994) on a sample of 155 primarily African American (63%) single-parent (77%) families, established a single component accounting for 52% of the variance, thus proposing a unitary structure of the PRBI. On the other hand Wu and Honig, used a sample of 731 well-educated middle-class mothers, proposing two components accounting for 41.6% and 13.1% of the variance. The study of Gonzales et al. (2013) utilized a sample of Hispanic and African American parents of lower–socioeconomic status. Considering different factor analytic approaches to the PRBI, as well the variations in the samples used it is difficult to draw definitive conclusions. However it may be debated on whether parental beliefs on literacy differ cross-culturally or by socioeconomic status?

In respect to Serbia very little research has been done related to emergent literacy development, let alone parents' beliefs on the subject. However some recent studies do recognize the importance of emergent literacy development for subsequent formal education of reading and writing, setting some standards on what is to be considered as an important parameter(s) for the development of emergent literacy (Mitrović, 2010a, 2010b; Anđelković, 2012).

Focus of the current study is to estimate how the core beliefs measured by the PRBI reflect the a priori dimensions proposed by the authors of the instrument (DeBaryshe & Binder, 1994; DeBaryshe, 1995) using a convenient sample of Serbian parents. As acquired data were gathered in Serbian language (from Slavic family of languages), we believe the study contributes data corpus in the field, allowing for cultural parallels to be observed, especially due fact most research in the area involve mostly samples from the Western hemisphere and English-speaking samples.

Method

Participants and the procedure. The current study is part of a larger project aimed at exploring parents' beliefs and practices related to emergent literacy of their children aged 3–5 (M=49 months; SD= 8.9 months). Participants in the study were 227 parents from several different municipalities in capital of Serbia, Belgrade, whose children are enrolled in public kindergartens. Of the parents who participated in the study 85% were mothers. In respect to educational attainment of the parents who participated in the study, 34% owns a high school diploma, 14% finished college, while 52% hold a university degree. Almost 13% of parents were unemployed, 8% own companies, 37% work in a private company and 43% in public ones. Almost half of the working parents in the sample spend 8–10 hours a day at work, while for 31% of them this amount is higher than 10 hours per day. As for the number of children in the family in case of 51% we dealt with 2-child families, 10% of parents had three children, while 37% of them had only one child. All parents participating in the study were contacted through kindergarten teachers in the facility where their child attends kindergarten.

Instrument. The PRBI is a 42-item measure of parents' beliefs about reading aloud to preschool-age children, related practices, and perception of parents' self-efficacy as their child's teacher (DeBaryshe & Binder, 1994; DeBaryshe, 1995). Authors of the PRBI reported the instrument to have seven subscales, but also that the items form a single factor and can be used as a total score (range from 42 to 168). Seven subscales of the PRBI that are supposed to measure parental beliefs on emergent literacy are (a) *teaching efficacy* (e.g. "I am my child's most important teacher"), (b) *positive affect* (e.g. "Reading with my child is a special time that we love to share"), (c) *verbal participation* (e.g. "When we read, I want my child to help me tell the story"), (d) *reading instruction* (e.g. "When we read, I have my child point out different letters or numbers that are printed in the book"), (e) *knowledge base* (e.g. "Reading helps children learn about things they never see in real life like Eskimos and polar bears"), (f) *resources* (e.g. "I don't read to my child because we have nothing to read"), and (g) *environmental input* (e.g., "Some children are natural talkers, others are silent. Parents do not have much influence over this").

Parents' answers are based on a 4-point Likert-type scale ranging from strongly disagree to strongly agree. DeBaryshe and Binder (1994) report a range of alpha reliability coefficients for the PRBI subscales from .50 to .85 (see appendix for the full instrument). For the purpose of this study the inventory was translated from English into Serbian, and then back to English to ensure the accuracy of the translation and adaptation of language to our cultural context.

Data analysis. For the purpose of this study confirmatory factor analysis was used. All models were estimated using Amos 16.0 with maximum likelihood method. Cronbach's alpha values were calculated using SPSS 20.0.

Results

Internal consistency estimates of the PRBI for the current study are given in Table 1. Alpha coefficients were calculated for each of the subscales. Table 1 also contains original alpha coefficients reported by the developers of the PRBI (DeBaryshe & Binder, 1994). Our results show the alphas for the current total sample ranged from .50 to .77 and were not fully comparable with the original values reported by the authors of the PRBI.

Table 1. *Internal Consistency Estimates of the PRBI by Subscale*

Subscales	DeBaryshe & Binder, 1994	Present Study
Teaching Efficacy	.73	.58
Positive Affect	.85	.77
Verbal Participation	.83	.76
Reading Instruction	.63	.65
Knowledge Base	.82	.65
Resources	.79	.59
Environment Input	.50	.50

Following a series of CFA models were estimated to examine the factor structure of the seven proposed subscales of the PRBI and to validate the single-factor structure reported for the inventory. In case of the models for the individual subscales each treated a particular subscale as a single factor with the individual items as indicators of that factor[2]. Following alternative models were estimated for the entire scale: (1) seven subscales were each estimated as separate factors, and a second-order factor was estimated with the subscale factors as indicators; (2) each subscale was estimated as a separate factor correlating among each other; and (3) all 42 items were loaded on a single general factor. Estimations on whether specific theoretical model fits the empirical data were made taking into account several parameters (Hu & Bentler, 1999; Thompson, 2005, Lazarević, 2008). The fit of the confirmatory factor models was assessed using the chi-square likelihood ratio test (Barrett, 2007; Hu & Bentler, 1999), chi-square test and the degrees of freedom ratio –CMIN/df (Kline, 2005), Bentler's Comparative fit index – CFI (Hu & Bentler, 1999; Miles & Shevlin, 2007), and Root-mean-square error of approximation – RMSEA (Barrett, 2007; Hu & Bentler, 1999). Cut-off values of the fit indices indicating acceptable fit were CMIN/df less than 2 (Kline, 2005), CFI above 0.95 (Hu & Bentler, 1999; Miles & Shevlin, 2007; Mulaik, 2007; Thompson, 2005) and RMSEA below 0.06 is seen as a good fit (Hu & Bentler, 1999; Miles & Shevlin, 2007; Thompson, 2005), whereas values between 0.06 to 0.08 are acceptable.

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2   No model estimation was made for environmental input subscale as it contains two items.

Table 2 presents fit statistics for models for individual subscales and for the three overall models. The CFA results of the subscale models showed substantial variance in how well they fit. It is noticeable that for neither of the subscales a "perfect" fit exists. Among them, subscales positive affect and knowledge base are close to adequate fit parameters, whereas for example reading instruction subscale has good values for the CFI parameter, while RMSEA indicates a worse fit.

Table 2. *Fit Statistics for Confirmatory Factor Analysis Models*

Model	χ^2(df)	p	CMIN/df	CFI	RMSEA
Individual Subscale Models					
Teaching Efficacy	86.308 (27)	0.000	3.197	0.683	0.099
Positive Affect	81.774 (35)	0.000	2.336	0.899	0.077
Verbal Participation	178.459 (20)	0.000	8.923	0.676	0.187
Reading Instruction	12.684 (2)	0.002	6.342	0.912	0.154
Knowledge Base	11.725 (5)	0.039	2.345	0.955	0.077
Resources	42.404 (2)	0.000	21.202	0.737	.299
Overall models					
Single factor	2088.506 (819)	0.000	2.550	0.467	0.083
Correlated factors	1553.888 (797)	0.000	1.950	0.682	0.065
Second-order factor	1633.124 (811)	0.000	2.014	0.655	0.067

Table 3 shows standardized factor loadings for the overall correlated factor model of the entire PRBI, with loadings for each of the subscales. As shown in Table 2, this model fits quite well within the data, χ^2(797) = 1553.888, p<.000, whereas values of the CMIN/df is 1.950 (which is bellow the critical value, less than 2). Following, value of the RMSEA is 0.065, pointing to the fact that the mistake based on this model is less than the critical value (below 0.08). However a CFI value is 0.682, pointing to specific differences in respect to overlap between predicted and obtained data. The regression parameters indicate that they are largest in the segment of the parents' beliefs regarding their perception of own teaching efficacy.

As for the second-order factor model of the entire PRBI, with subscales treated as first-order factors statistics are as follows χ^2(811) = 1633.124, p<.000, CMIN/df=2.014, CFI=0.655, RMSEA=0.067. In the process of the analyses the second-order factor was chosen as it appeared to be the most in line with the theoretical underpinnings of PRBI, as parental beliefs are seen as a single general factor underlying the specific beliefs measured by the subscales. The correlated factors model was used to test out whether any potential misfit in the second-order factor model was due to the constraints introduced by the second-order factor or if misfit(s) was present in the definition of the subscales as separate factors. If we take into account the correlated factors model and the second-order factor model, they do have similar fit indices and the latter has

more degrees of freedom (less parameter). However as the correlated factors model is the simpler one and with better overall fits we have taken this model as the one that will be further commented.

Table 3. *Model estimates for the correlated model*

Teaching Efficacy		Positive Affect		Verbal Participation		Reading Instruction		Knowledge Base		Resources		Environment Input	
Item	SRW*	Item	SRW	Item	SRW	Item	SRW	Item	SRW	Item	SRW	Item	SRW
1	.194	10	.642	20	.377	28	.696	32	.380	37	.753	41	.526
2	-.524	11	-.762	21	.603	29	.460	33	.552	38	.387	42	.625
3	.173	12	-.333	22	.640	30	-.314	34	.620	39	.478		
4	-.405	13	-.646	23	.630	31	.735	35	.661	40	.634		
5	.112	14	.528	24	.446			36	.525				
6	-.681	15	-.616	25	.503								
7	.301	16	.402	26	.607								
8	-.608	17	-.470	27	.629								
9	.264	18	.440										
		19	-.412										
		20	-.042										

* SRW stands for Standardized Regression Weights

Note: Item 20 was reported to have loading on both Positive Affect and Verbal Participation subscales by the PRBI developers, thus our model assumed the same.

Finally, in a single factor model in which all 42 items loaded on a single general factor the fit statistics are as follows: $\chi^2(819) = 2088.506$, p<.000, CMIN/df=2.550, CFI=0.467, RMSEA=0.083. Among the overall models this one has the poorest fit.

DISCUSSION

In the present study we explored the core factor structure originally proposed by the developer of the Parent Reading Belief Inventory (PRBI) DeBaryshe (DeBaryshe & Binder, 1994; DeBaryshe, 1995). The inventory was developed to assess and explore parents' beliefs about reading aloud to their children, measuring parents' attitudes and perceptions about how children learn, the content of their learning and parental efficacy in the process.

The current study found internal consistency estimates were not in line with those reported by the authors of the PRBI, nor Gonzales et al. (2013). Using confirmatory factor analysis the subscale models showed substantial variance in how well they fit. Subscales Positive affect and Knowledge base were close to adequate fit parameters, whereas in case of Gonzales et al. (2013) Reading instruction and Resources subscales fulfilled these conditions.

Better fit was found for the overall models for the entire PRBI scale. Among them, the correlated factors model exhibited the best fit indices. However, lower CFI value has pointed to specific differences in respect to overlap between predicted

and obtained data, particularly in the segment of parents' beliefs regarding their perception of own teaching efficacy. Items with the lowest standardized regression weights were "As a parent, I play an important role in my child's development.", "My child learns many important things from me" and "I am my child's most important teacher." Although we are sure many of our parents do believe they teach their children important lessons about life it is quite possible "teaching own child" literacy is not perceived as a parent duty. Literacy is on the burden of the schools. Although some recent studies do recognize the importance of emergent literacy development for subsequent formal education of reading and writing (Mitrović, 2010a, 2010b; Anđelković, 2012) analysis of practices in our kindergartens does point to the conclusion literacy is seen mainly through development of oral language (Ševa & Radišić, submitted) at that age. Quite possibly parents see it the same way, especially since in our focus we had parents of children 3–5, whereas compulsory preparatory preschools program does not start before age of 6.

If we compare our results for overall models, especially correlated factor one, fit indices for all of them were better than in case of Gonzales et al. (2013). The authors explain their poor fit likely to be result of the subscales not being sufficiently distinct. Further more they argue, that as the overall models required items to load on only their associated subscale factors, many of the items should be allowed to load on two or more of the subscale factors. Our results do not collide with this assumption.

At the same time we cannot say our results are consistent with both DeBaryshe and Binder's (1994) or Wu and Honig's (2010) studies. First of all internal consistency estimates in our study did not confirm findings presented by DeBaryshe and Binder. Following in their exploratory factor analysis of data (sample of 155 mainly African American single-parent families) revealed a single component accounting for 52.5% of the variance. These lead authors to conclude of a unitary structure to parental reading beliefs. In case of Wu and Honig's (2010) study their second-order factor analysis (sample of 731 well-educated middle-class Taiwanese mothers) found two components accounting for 41.6% and 13.1% of the variance. In our case second-order factor model exhibited lower fit indices then the correlated factors model. Also in our sample we had almost two thirds of the parents with college and university degree, whereas average for the Serbian capital is around 28%. Following in our sample out of 227 parents 15% were fathers. This was not an issue with for example Wu and Honig's (2010) or DeBaryshe and Binder's (1994) studies. Therefore having in mind differences in samples, SES, or different methodological solutions it is very difficult to draw some definite conclusions. One of the assumptions that surely needs to be taken into account and further investigated is the one on cross-cultural (and) or by socioeconomic status differences in respect to parents' beliefs.

As previously said importance of the home environment to children's emergent literacy development has thoroughly been documented (e.g. Dickinson & Tabors, 1991; Snow, Barnes, Chandler, Goodman & Hemphill, 1991; Beals & De Temple, 1993; Sonnenschein, Brody & Munsterman, 1996; Christian, Morrison &Bryant, 1998; Burgess, Hecht & Lonigan, 2002); whereas parents' beliefs on their child's literacy development and how these beliefs are connected with other aspects of home literacy environment are sternly under explored.

Yet what we do know is that parents' literacy beliefs can vary substantially, significantly influencing learning potentials of the home environment (Wasik & Hendrickson, 2004; Curenton & Justice, 2008) and that this diversity influences what children actually learn and do when at home (DeBaryshe, Binder & Buell, 2000; Wasik & Hendrickson, 2004). Considering the inconsistencies in results between our study and the three studies we used as the frame of reference seems much is yet to be done to explore home learning environment of various families in different cross-cultural context. With that in mind it is quite possible that current version of the PRBI does not allow for all the diversity to be captured, at least this is true for some of the subscales within the instrument. Therefore refinement and further validation of the scale with more varied and possibly more representative samples are necessary especially since this is as we know the only scale dealing with parents' literacy beliefs. Other possible way to further adapt the PRBI, especially in the context of findings within the Serbian sample, may be seen in performing a qualitative study of parents' item interpretations with special focus on to items related to teaching efficacy dimension.

CONCLUSIONS

Any self-report measure is susceptible to social desirability bias. As the PRBI relies on parents' self-reports, this is a legitimate limitation of the instrument. Of course, all self-report measures are subject to this constraint. At the same time a limited number of studies have so far tackled the underlying structure of the PRBI. While one of the major drawbacks of the Wu and Honig's (2010) study is the very fact the authors did not attempt to validate the originally proposed structure of the PRBI with its seven subscales; in case of Gonzales et al. (2013) confirmatory factor analysis was used in an attempt to validate originally proposed structure, yet the small sample size they used presents a major limitation, reducing reliability of the results. Results of our study indicate better fit indices then the Gonzales et al. (2013). However, any generalization of the results produced so far should be taken with care, especially due need for the future studies to additionally examine the validity and reliability of the PRBI.

Looking at the overall models produced in Gonzales et al. (2013) study, as well as ours and the mixed findings for the subscales, future research using more diversified samples should try to replicate findings of the both studies considering the differences especially for the overall models. At the same time subscales of the PRBI surely deserve a continual investigation.

Together with the studies of Wu and Honig (2010) and Gonzales et al. (2013), we consider this study genuinely contributing to the preliminary analysis of the psychometric properties of the PRBI. Yet future research should persist on refining empirically the PRBI construct through continued replication of the findings so far, including well-built and more varied samples. Further more studies focusing on how parents interpret specific items within the PRBI (e.g. those within teaching efficacy dimension) may shed some additional light on lack of interpretability of specific subscales.

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Appendix

Parental Beliefs Reading Inventory Items by Subscale
(DeBaryshe & Binder, 1994)

(1) Teaching Efficacy
– PB1 As a parent, I play an important role in my child's development.
– PB2 There is little I can do to help my child get ready to do well in school.
– PB3 My child learns many important things from me.
– PB4 I would like to help my child learn, but I don't know how.
– PB5 I am my child's most important teacher.
– PB6 Schools are responsible for teaching children, not parents.
– PB7 Parents need to be involved in their children's education.
– PB8 When my child goes to school, the teacher will teach my child everything my child needs to know so I don't need to worry.
– PB9 Children do better in school when their parents also teach them things at home.

(2) Positive Affect
– PB10 I find it boring or difficult to read to my child.
– PB11 I enjoy reading with my child.
– PB12 I have good memories of being read to when I was a child.
– PB13 Reading with my child is a special time that we love to share.
– PB14 My child does not like to be read to.
– PB15 I feel warm and close to my child when we read.
– PB16 I have to scold or discipline my child when we try to read.
– PB17 I want my child to love books.
– PB18 I don't read to my child because he or she won't sit still.
– PB19 I read to my child whenever he or she wants.
– PB20 When we read I try to sound excited so my child stays interested.

(3) Verbal Participation
– PB20 When we read I try to sound excited so my child stays interested.
– PB21 Children learn new words, colors, names, etc., from books.
– PB22 Reading helps children be better talkers and better listeners.
– PB23 My child knows the names of many things he or she has seen in books.
– PB24 When we read, I want my child to help me tell the story.
– PB25 I ask my child a lot of questions when we read.
– PB26 When we read, I want my child to ask questions about the book.
– PB27 When we read we talk about the pictures as much as we read the story.

(4) Reading Instruction
– PB28 I read with my child so he=she will learn the letters and how to read simple words.
– PB29 Parents should teach children how to read before they start school.
– PB30 My child is too young to learn about reading.
– PB31 When we read, I have my child point out different letters or numbers that are printed in the book.

(5) Knowledge Base
– PB32 I try to make the story more real to my child by relating the story to his or her life.
– PB33 Stories help build my child's imagination.
– PB34 My child learns lessons and morals from the stories we read.
– PB35 Reading helps children learn about things they never see in real life (like Eskimos and polar bears).
– PB36 My child learns important life skills from books (like how to follow a cooking recipe, how to protect themselves from strangers).

(6) Resources
– PB37 Even if I would like to, I'm just too busy and too tired to read to my child.
– PB38 I don't read to my child because we have nothing to read.
– PB39 I don't read to my child because there is no room and no quiet place in the house.
– PB40 I don't read to my child because I have other, more important things to do as a parent.

(7) Environmental Input
– PB41 Some children are natural talkers, others are silent. Parents do not have much influence over this.
– PB42 Children inherit their language ability from their parents, it's in their genes.