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Learning-Related Values in Young Children’s Storybooks:
An Investigation in the United States, China, and Mexico

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Abstract

This research examined the prevalence of learning-related values in children’s storybooks in the United States, China, and Mexico. Storybooks (N=157) were randomly selected from government-recommended booklists in each country. Trained coders assessed the prevalence of learning-related beliefs (e.g., malleability of ability), motivated cognitions (e.g., achievement orientation), and behaviors (e.g., effort) in the storybooks. A set of MANOVA analyses revealed that Chinese (vs. American and Mexican) storybooks contained more instances of learning-related beliefs and behaviors. For example, Chinese storybooks included more instances of achievement-related goals and behaviors, relative to books in the United States. With the exception of achievement goals and helplessness, the prevalence of learning-related qualities was largely similar in the United States and Mexico.
Learning-Related Values in Young Children’s Storybooks:

An Investigation in the United States, China, and Mexico

Differences in children’s academic achievement are evident among children residing in different parts of the world. For example, results from the Program for International Student Assessment (PISA, 2012) revealed that children in East Asia (e.g., China, Japan) outperformed their North American counterparts. Given the disparate emphases individuals place on learning in different cultural contexts, it is possible that culturally-valued qualities related to learning may in part underlie country-level differences in children’s achievement. Although much research has focused on parents as a crucial source for transmitting valued qualities across generations (e.g., Chao, 1994; Li, 2012), it is unclear whether cultural artifacts – such as the reading materials children are exposed to – can serve as conveyors of desirable qualities across cultures. This represents a gap in the literature given that children spend a substantial amount of time reading storybooks, especially in the early elementary school years (Renaissance Learning, 2016). To begin to fill this gap, the current research was designed to examine whether the prevalence of learning-related qualities differed in children’s storybooks in three countries – the United States, China, and Mexico.

Storybooks as Conveyors of Cultural Values

Researchers have long recognized the importance of values in children’s learning, such that the more children view education as important, the more likely they are to succeed in school (e.g., Eccles & Harold, 1996; Simpkins, Fredricks, & Eccles, 2015). As such, a plethora of research has focused on how adults, especially parents, can create environments that maximize children’s development of learning-related values (e.g., Albert, Trommsdorff, & Wisnubrata, 2009; Phalet & Schönpflug, 2001). Indeed, researchers argue that parents play a key role in
instilling and transmitting culturally-valued qualities across generations (e.g., Schönpflug, 2001; Tam & Lee, 2010). For example, when parents emphasize the importance of education, children tend to see learning as an important endeavor and become more engaged in school (e.g., Cheung & Pomerantz, 2015; Eccles et al., 1983).

Beyond parents, however, it is arguable that cultural artifacts, including children’s reading materials, are essential in the process of value transmission. Research focusing on the role of multimedia products (e.g., movies, magazines, and advertisements) indicates that cultural artifacts can influence children’s and adults’ thinking and behaviors (e.g., Frith & Wesson, 1991; Hong, Muderrisoglu, & Zinkhan, 1987; Lamoreaux & Morling, 2012; Towbin et al., 2004;). For example, television commercials are often effective in conveying specific ideologies (e.g., utilitarian values; Cheng, & Schweitzer, 1996). Similarly, children’s storybooks can serve to instill learning-oriented ideas, which may influence children’s approaches to school. It is conceivable that exposure to reading materials that highlight the importance of learning-related qualities such as effort and perseverance may lead children to value such qualities to a greater extent – given the familiarity principle (see Zajonc, 2001).

**Children’s Storybooks in the United States, China, and Mexico**

Despite the purported role of children’s storybooks in their learning, it is unclear whether the content of children’s storybooks differs across countries with distinct cultural orientations. To date, only a handful of research has shed light on this question. Focusing on the prevalence of affective states, Tsai and colleagues (Tsai, Louie, Chen, & Uchida, 2007) reported differences in emotional expressions in the best-selling storybooks in the United States and Taiwan, such that the facial expressions of the protagonists in the storybooks in the United States convey elated emotions (e.g., excitement) and positive affective states (e.g., smiles) to a greater extent.
Moreover, children who were exposed to excited affect in storybooks preferred excited activities rather than calm activities (Tsai et al., 2007). The findings are in line with disparities in emotional expressivity evident in Taiwan and the United States, thereby suggesting the possibility that children’s reading materials can at least indirectly instill emotional competence consistent with culturally-valued practices.

There is emerging evidence that the content focus – particularly those related to learning – of children’s storybooks differ across cultures (e.g., Suprawati, Anggoro, & Bukatko, 2014). The distinct messages conveyed in children’s reading materials may, in turn, lead children to adopt distinct approaches to learning and problem-solving (see Heine et al., 2001). In a recent study focusing on storybooks in Indonesia, Japan, and the United States, researchers found that Japanese (vs. American) storybooks contained more information about achievement (Suprawati et al., 2014). In addition, storybooks from Japan contained more challenges that were solved by the protagonists’ persistence and effort, in contrast to American storybooks, which included few instances pertinent to the resolution of challenges.

The dissimilar emphases on the role of achievement in the United States, China, and Mexico undergird the motivation of the current research. In China, where academic achievement is seen as one of the most crucial qualities for children’s development, parents are often highly devoted to children’s learning and education (e.g., Chao, 1994; Cheung & Pomerantz, 2011). In the United States, however, parents aspire to develop other essential qualities in children, such as self-esteem and social competence (e.g., Chao, 1996; Parmar, Harkness, & Super, 2004). Hence, although academic achievement is valued, the pursuit of academic excellence does not take precedence over the development of children’s social competence.
Apart from parents’ aspirations, differences in American and Chinese children’s conceptions of school-related qualities begin to emerge in as early as preschool (Li, 2004). For example, Chinese children tend to see learning as a process to develop qualities such as diligence, endurance of hardship, and persistence – which are deemed essential for continual self-perfection (Li, 2002). This is in line with the Confucian exemplar, which places emphasis on effort, respect for others, and pragmatic acquisition of knowledge (Tweed & Lehman, 2002). American preschoolers, on the other hand, tend to view learning as a process to accomplish tasks (e.g., acquiring knowledge, resolving problems; Li, 2002). Such early differences in Chinese and American children’s conceptions have been argued to stem from differential models about learning in Eastern and Western cultural contexts. For instance, the notion of “hao-xue-xin” (i.e., the heart and mind for wanting to learn), represents a learning model characterizing Chinese children’s heightened desire to excel academically (Li, 2002).

In Mexico, children’s development of interpersonal skills is valued (see Okagaki & Sternberg, 1993). Coupled with high rates of youth participating in the labor force and relatively low rates of school enrollment (Knaul & Parker, 1998; Levison, Moe, & Knaul, 2001), excellence in the academic domain may not be prioritized, especially in the face of competing interests. However, within the United States, research indicates that Hispanic (vs. European) American mothers believe more strongly in the value of homework and the importance of longer school days (Stevenson, Chen, & Uttal, 1990). In addition, Hispanic American parents tend to have higher expectations for their children’s school attainment. Although it is unclear whether differences across ethnic groups reflect disparities in parental beliefs across countries, patterns of socialization among immigrant families in the United States often mirror those in their home country (e.g., Portes & Rumbaut, 2014; Warikoo, 2011).
The Current Study

Given distinct cultural emphases on the importance of learning in the United States, China, and Mexico, we sought to examine whether the prevalence of learning-related values in children’s storybooks differ in the three countries. Following the approach by Suprawati et al. (2014), the current research focused on the text portions of the storybooks. We attempted to extend prior work (e.g., Suprawati et al., 2014; Tsai et al., 2007) in several ways. First, the current research focused on three core aspects of learning related qualities, namely beliefs, motivated cognitions, and behaviors. These core qualities were chosen given that children, at least in the United States and China, differ reliably on these aspects of learning (e.g., Wang & Pomerantz, 2009). Second, we included a substantially larger sample of storybooks to enhance generalizability. We also chose to focus on storybooks recommended by the respective Ministry of Education in each country, as teachers and parents are more likely to supplement children’s learning with the recommended books. Third, instead of translating the reading materials into a single language for analysis, we relied on native and bi-cultural coders to preserve meanings in the original language and to prevent loss of information during the translation process. Fourth, in addition to learning behaviors (e.g., effort), we focused on learning-related beliefs (e.g., malleability of ability) and motivated cognitions (e.g., goal orientations).

We trained coders on seven learning-related qualities that are prevalent in children’s storybooks. Given the emphasis on academic achievement in China, we hypothesized that the prevalence of learning-related qualities would be higher in the Chinese (vs. American and Mexican) storybooks. Furthermore, given disparities in school enrollment rate among children in the United States and Mexico, we expected that storybooks in the United States (vs. Mexico) would contain more instances of learning-related behaviors.
Method

Storybooks in each country were randomly sampled from government-recommended reading lists published by each country’s respective Ministry of Education. We restricted the range of storybooks by focusing on books recommended for children between ages 3 to 11 (i.e., preschool through fifth grade). This age range is selected because differences in children’s conceptions about learning emerge as early as in preschool (e.g., Li, 2004) and such views in early childhood may lay the foundation for future success in school. Books in the United States were selected from the Common Core Appendix B (Common Core Standards Initiative, 2012), which serve as guidelines on both the complexity and quality required by the Common Core Standards. A Common Core Initiative workgroup created the booklist through solicitation from teachers, educators, and researchers who have experience working with children in the K-12 setting. The complete list contains a total of 334 titles, with 149 of the books recommended specifically for children in preschool through fifth grade. The booklist was created to provide teachers with guidelines for selecting reading materials for students and the readings were not required to be part of the curriculum. At the time when the study was conducted, the Common Core Standards have been adopted by 45 states and the District of Columbia.

Books in China were sampled from the “Recommended Readers” lists published by the Ministry of Education of the People’s Republic of China. The lists from 2014 and 2015 were included in the current research (National Reading, 2016). The combined list contains 95 titles deemed suitable for children in preschool and primary school. The recommended books were intended to promote the “habit of reading” and were not compulsory for teachers to adopt (National Reading, 2016). The original booklists contained recommended titles for youth and adolescents. However, books for older children were excluded from the current analysis.
Books in Mexico were sampled from “Libros del Rincon” – a list of books provided by the National Literacy Program in Mexico (Libros del Rincon, 2013). The Libros del Rincon list was generated using a two-step process. In the first step, representatives, publishers, and individuals nominated over 6,000 titles. Subsequently, the general list was narrowed down to 268 titles. 168 of the titles were considered suitable for children between preschool (3-year-olds) to primary school year 5 (11-year-olds). It is conceivable that teachers in each country may use the list as references in their selection of texts, however, specific information on the extent to which the booklists guided teachers’ decision was not available in any of the countries.

Overall, 380 storybooks were included in the current research. 12 (3.2%) of them were not acquirable through bookstores and libraries and 7 (1.8%) were picture books that did not contain any text. These books were excluded from the analysis. The abridged list contained approximately equal number of books for younger and older children in each country.

Storybooks were then randomly selected from each of the abridged lists, such that the number of books included in our analysis was fairly even in each country: 59 in the United States, 49 in China and 49 in Mexico (see Appendix A for a sampling of the book titles in each country).

Pairs of native coders coded the same set of storybooks from each country. In the training phase, coders were introduced to the coding scheme and were given clear definitions and examples of all learning-related qualities. Training continued until 80% or higher agreement was achieved. Coders were instructed to focus on the text portions of the storybooks and identify instances of the seven learning-related qualities in the coding system. Upon identification of a codable instance, coders recorded “1” on the coding sheet. In addition, coders recorded the page number and the sentence in which the learning-related quality was contained. The agreement between coders was closely monitored throughout the entire coding process, with major
discrepancies promptly resolved through discussions between the coders whenever necessary. To ensure that the coding system was used similarly across the three countries, bi-cultural coders who were fluent in at least two of the languages (e.g., English and Chinese) coded a subset (i.e., 20%) of the materials in each country. Coding completed by the bi-cultural coders agreed with those of the native coders – with an average agreement of 85.2%.

**Coded Qualities Related to Learning**

In total, seven learning-related qualities, categorized under beliefs, motivated cognitions, and behaviors, were coded. To account for the differing base occurrences across the codes, percentage agreement between coders was calculated. Specifically, a ratio between the detected occurrence of a code and the total number of possible occurrences for that code was computed. Agreement on all coded dimensions was satisfactory across the three countries, with an average agreement of 86.8%.

**Beliefs.** Two beliefs about the essential qualities of learning were coded. *Intelligence* was coded each time characters in the book demonstrated any instances or referred to characteristics of being smart, intelligent, or clever (e.g., “You are the smartest pet in the world”). *Malleability* was coded each time characters in the book demonstrated any instances of changeability, being able to improve, or being able to enhance one’s ability in any given context (e.g., “Hoping to nurture reading skills”).

**Motivated Cognitions.** Two sources of motivated cognitions related to learning were coded. *Achievement-Ontentration* was coded each time protagonists in the book demonstrated a focus on a success or failure outcome (e.g., “He wanted to win the race”). *Process-Ontentration* was coded each time characters in the book demonstrated instances of focusing on the learning process (e.g., “She stayed up all night to perfect her move”).
Behaviors. Three learning-related behaviors were coded. Effort was coded each time protagonists in the book demonstrated any instances of hard work or vigorous, determined attempts to complete a task (e.g., “It was very hard work”). Helplessness was coded when protagonists in the book demonstrated any instances of experiencing obstacles, and not being able to overcome them (e.g., “I will just have to sit here and do nothing”). Avoid negative influences was coded when protagonists demonstrated instances of avoiding influences that were detrimental to their goals (e.g., “She ignored the noise and left the stage”), or expressing desires to avoid associating with other individuals or events because of perceived negative effects (e.g., “She paid no attention to it”).

Results

Three sets of analyses were conducted to examine the prevalence of learning-related values in children’s storybooks in the three countries. First, we conducted a MANOVA test on all coded qualities at once. Second, any between-country differences were probed by the Tukey’s post hoc test. Third, to rule out the possibility that the varying amount of codable materials may underlie differences across countries, we conducted a MANCOVA test, taking into consideration differences in the overall page length in the storybooks across the three countries. Table 1 presents the descriptive statistics for the coded learning-related qualities in the storybooks in each country.

As shown in Table 2, the prevalence of learning-related values in children’s storybooks differed in the United States, China, and Mexico. Consistent with our expectations, storybooks in China contained more instances of learning related beliefs, $F_s > 3.40$, $p_s < .05$. Post hoc analyses revealed that Chinese (vs. Mexican) books had more mentioning of intellectual qualities, $t = 2.56$, $p < .05$. In addition, storybooks differed across the three countries on the dimension of
motivated cognitions, $F_s > 5.50, p_s < .01$. Tukey’s post hoc test revealed that Chinese (vs. American) storybooks contained fewer instances of helplessness, $t = 2.72, p < .05$, and more instances of achievement and process goal orientations, $t_s > 2.78, p_s < .05$. Chinese (vs. Mexican) storybooks contained more references to goal orientations, $t_s > 3.80, p_s < .05$. With respect to behaviors, Chinese storybooks contained more instances of effort, $t_s > 5.78, p_s < .05$ and avoidance of negative influences, $t_s > 2.72, p_s < .05$ than storybooks in the United States and Mexico. Storybooks in the United States and Mexico conveyed similar levels of learning-related qualities, with the exception of helplessness and achievement orientation, where books in the United States had more frequent mentioning of both qualities, $t_s > 2.43, p_s < .05$.

**Supplementary Analyses**

Given variations in the total number of pages in the storybooks sampled in each country, such that American storybooks had more pages on average, $F = 6.45, p < .05$, we conducted a set of supplementary analyses to rule out the possibility that country differences in the coded qualities were simply due to differences in the number of available instances. To this end, page number was included as a covariate in the MANCOVA test. Results from the MANCOVA test replicated that of the MANOVA. Hence, the prevalence of learning-related qualities evident in the Chinese storybooks is not simply due to differences in the sheer amount of codable content across the countries.

**Discussion**

The current research examined the prevalence of learning-related qualities in children’s storybooks in three countries – the United States, China, and Mexico. Focusing on storybooks recommended for children between the ages of 3 and 11, learning-related qualities were more prevalent in Chinese (vs. American and Mexican) storybooks. Specifically, Chinese storybooks
contained more instances of positive learning beliefs (e.g., the malleability of intelligence),
motivated cognitions (e.g., desire to master complex skills) and learning-related behaviors (e.g.,
putting in effort). This research represents a departure from prior work, which has primarily
focused on the emotional content (Tsai et al., 2007) and qualities related to achievement
(Suprawati et al., 2014) in children’s storybooks across cultures.

Consistent with our expectation, the prevalence of learning-related qualities was higher in
the storybooks from China (vs. the United States and Mexico). Over the past few decades,
Chinese children have outperformed their American counterparts on international comparisons
(e.g., PISA, 2012; Stevenson, Chen, & Lee, 1993), with such differences attributed in part to the
value teachers and parents place on education (e.g., Chao, 1994; Crystal & Stevenson, 1991;
Stevenson & Lee, 1990; Wang, Pomerantz, & Chen, 2007). Importantly, the heightened
emphasis on children’s learning is evident not only in adults’ beliefs but also in children’s
storybooks. As with the storybooks in the United States and Mexico, Chinese storybooks
contained diverse topics and themes (e.g., scientific, adventurous, mythical). However, despite
the diversity, a substantial proportion of the storybooks contained positive depiction of events or
experiences pertinent to learning.

Contrary to our expectation, the prevalence of learning-related values was similar in the
United States and Mexico. Specifically, with only the exception of helplessness and achievement
orientation, American and Mexican storybooks conveyed similar levels of learning-related
beliefs and behaviors. It is possible that differences in the prevalence of learning-related values
between the two countries do not occur until children are further along in their education. For
example, books that are aimed at older children (e.g., high school students) may contain differing
amounts of learning-oriented qualities in the two countries. Regardless, results from the current
research suggest that the differing rates of school engagement in the United States and Mexico may not be readily explained by the prevalence of learning-related values in young children’s storybooks.

Several limitations should be noted in interpreting the current findings. First, the list of values examined does not represent a complete list of beliefs, cognitions, and behaviors relevant to learning. A more comprehensive depiction of learning-related qualities may include a wider range of learning-related behaviors (e.g., aspiration to succeed in school). Second, we relied on government-recommended booklists because the teachers may be more likely to endorse the recommended books and such books may be more accessible to children in public libraries. However, parents may supply additional materials, which may not necessarily overlap with the recommended books. Third, the current research did not assess children’s academic functioning in conjunction with the storybooks to which children are exposed. Hence, it is unclear if differences in children’s achievement across countries are associated with the prevalence of learning-related values in children’s storybooks.

Despite these limitations, the current research provides a window into understanding how children’s storybooks may serve as conveyors of learning-related values across cultures. Compared to storybooks in the United States and Mexico, Chinese storybooks contained more instances of beliefs, cognitions, and behaviors relevant to learning. A fruitful avenue for future work involves the examination of the immediate impact of book reading on children’s internalization of learning-related values. In addition, given that storybooks represent only a portion of the cultural tools with which children interact, the inclusion of a broader range of book genres and media products (e.g., magazines, comic books, TV shows) may enhance understanding of the role of cultural artifacts in children’s learning.


Phalet, K., & Schönpflug, U. (2001). Intergenerational transmission of collectivism and achievement values in two acculturation contexts the case of Turkish families in Germany and Turkish and Moroccan families in the Netherlands. *Journal of cross-cultural psychology, 32*(2), 186-201. doi: 10.1177/0022022101032002006


Table 1

*Means and Standard Deviation of Learning-Related Qualities in Children’s Storybooks in the United States, China, and Mexico.*

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>China</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td><strong>Beliefs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligence</td>
<td>.117</td>
<td>2.86</td>
<td>1.61</td>
</tr>
<tr>
<td>Malleability</td>
<td>.29</td>
<td>.83</td>
<td>3.22</td>
</tr>
<tr>
<td><strong>Motivated Cognitions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement-Orientiation</td>
<td>.75</td>
<td>1.52</td>
<td>1.54</td>
</tr>
<tr>
<td>Process-Orientiation</td>
<td>.20</td>
<td>.45</td>
<td>.67</td>
</tr>
<tr>
<td><strong>Behaviors</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>1.36</td>
<td>1.73</td>
<td>4.76</td>
</tr>
<tr>
<td>Helplessness</td>
<td>1.04</td>
<td>1.76</td>
<td>.37</td>
</tr>
<tr>
<td>Avoid Bad Influences</td>
<td>.06</td>
<td>.30</td>
<td>.52</td>
</tr>
</tbody>
</table>
Table 2

Multivariate Analysis of Variance and Pairwise Comparisons of Learning-Related Qualities in the Storybooks in the United States, China, and Mexico

<table>
<thead>
<tr>
<th>ANOVA Results</th>
<th>Pairwise Comparisons</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>Beliefs</td>
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<tr>
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</tr>
<tr>
<td>Malleability</td>
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</tr>
<tr>
<td>Motivated Cognitions</td>
<td>12.04</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement-Orientatio</td>
<td>n</td>
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<tr>
<td>Process-Orientatio</td>
<td>n</td>
</tr>
<tr>
<td>Behaviors</td>
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<td>Effort</td>
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</tr>
<tr>
<td>Helplessness</td>
<td>5.53</td>
</tr>
<tr>
<td>Avoid Bad Influences</td>
<td>5.04</td>
</tr>
</tbody>
</table>

* p < .05
Appendix A

Sample Titles of Storybooks in the United States, China, and Mexico

United States:

1. Lon Po Po: A Red-Riding Hood Story
2. The Treasure
3. The Little Prince
4. How People Learned to Fly
5. Tales from the Odyssey: The One-Eyed Giant

China:

1. 好想吃榴槤 (I want to eat durian)
2. 从窗外送來的礼物 (The gift from outside the window)
3. 稻草人 (Scarecrow)
4. 月亮姑娘做衣裳 (Moon goddess making clothes)
5. 尋找快活林 (The search of a happy forest)

Mexico:

1. Pinzón En La Tormenta (Pinzón in the storm)
2. Aaaah! el Dentista No! (Aaaah! The Dentist No!)
3. Mama quien soy yo? (Mama who am I?)
4. El oficial Correa y Gloria (The officer Correa and Gloria)
5. Vuela, Yoa, vuelo! (Fly, Yoa, fly!)