



Mastery Motivation of University Students in Australia, Hungary, Bangladesh and Iran

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Abstract

This study trialed a newly developed measure of adult mastery motivation in four different cultural contexts. The Dimensions of Adult Mastery Motivation Questionnaire was translated into Hungarian and Persian languages. A total of 469 university students in Australia, Hungary, Bangladesh and Iran completed the questionnaire about their levels of persistence, preference for challenge, task absorption, and task pleasure. Cronbach alphas for the total mastery motivation scale and most subscales were acceptable to good. There were no differences in self-reported mastery motivation across the four countries, but significant gender differences were evident. In all countries except Hungary, male students reported higher levels of mastery motivation. The DAMMQ appears to be a useful measure of mastery motivation across diverse cultures. The findings provide some support for the universality of the theoretical construct of mastery motivation and suggest the potential need for universities to encourage and nurture female students in their striving for mastery. Given the importance of university education for a country's prosperity, understanding the motivational factors that underlie academic success is imperative to inform policies and programs for increasing student retention and individual well-being.

Keywords: motivation, persistence, adult students, mastery motivation, preference for challenge, cross-cultural studies

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Introduction

University dropout rates are a concern throughout the world (Arulampalam, Naylor, & Smith, 2007; Crosling, Heagney, & Thomas, 2009; Nitza, Whittingham, & Markowitz, 2011; Pryjmachuk, Easton, & Littlewood, 2009). In order to maximize student retention, it is important for universities to attempt to understand why some students succeed and others do not. Low motivation has been identified as one of the factors associated with university drop-out (Cabrera, Bethencourt, González, & Alvarez, 2006, cited in Duque, Duque & Suriñach, 2013; Infante & Marin, 2008).

Most motivation research with university samples has focused on students' motives for studying – that is, their reasons for enrolling in a university course and striving for academic success (e.g., Evans & Bonneville-Roussy, 2016; Guiffrida, Lynch, Wall, & Abel, 2013; Liu, Ye, & Yeung, 2015). Motives include intrinsic, mastery-related factors such as the desire to gain knowledge and skills, as well as more extrinsically motivated performance-focused factors such as the desire to gain recognition and approval from others. In addition, social goals that motivate academic achievement have been recognized, particularly within collectivist societies. Social goals include the desire for social status or group affiliation (King, McInerney, & Watkins, 2013). Based on self-determination theory, the Academic Motivation Scale (AMS; Vallerand et al., 1992) and the Self-Regulation Questionnaire (SRQ; Ryan & Connell, 1989) are popular choices for measuring motives for university study. Research using these instruments has focused on understanding the ways in which the needs for autonomy, competence and relatedness motivate university students and predict their academic achievement. Guiffrida et al. (2013), for instance, found that students who were motivated by the needs for autonomy and competence achieved higher grades.

Mastery motivation is a somewhat different construct of motivation. Rather than addressing motives for pursuing learning and achievement, mastery motivation focuses on the behaviors and emotions that reflect the drive for competence and that are predictive of academic success (Gilmore, Cuskelly, & Purdie, 2003; Józsa & Molnár, 2013). Individuals who have high levels of mastery motivation are more persistent, they choose to challenge themselves and become very absorbed with difficult tasks, and they feel pleasure and pride when successful. Older children and adults are expected to display greater mastery motivation for activities that are within their realm of interest and aptitude, and there is a presumption that, to a large extent, mastery is intrinsically driven. However, extrinsic factors also contribute to mastery motivation; for instance, sensitive encouragement, support of autonomy and judicious reinforcement for effort are all likely to promote and sustain the drive for mastery (Gilmore & Cuskelly, 2014). Cultural, social, economic and political factors may also potentially have an impact. Because mastery motivation reflects a person's general approach across a broader range of life experiences than just academic learning, the construct has potential applications beyond educational settings to areas such as therapy services (e.g., Miller, Ziviani, Ware, & Boyd, 2015). Mastery motivation provides a useful framework for exploring individual

approaches to learning, irrespective of the type of goals (mastery, performance or social) that are endorsed.

The Dimensions of Mastery Questionnaire (DMQ; Morgan, Busch-Rossnagel, Barrett, & Wang, 2009) has been widely used as a parent, teacher and self-report of mastery motivation in childhood and adolescence (e.g., Green & Morgan, 2017; Huang & Lay, 2017; Hwang et al., 2017; Józsa & Molnár, 2013; Morgan et al., 2017). Recently, an adult measure of mastery motivation has been developed. The Dimensions of Adult Mastery Motivation Questionnaire (DAMMQ; Doherty-Bigara & Gilmore, 2015) assesses four aspects of mastery motivation across the adult years. To date, the instrument has been used only in the Australian context, and its applicability and value in other countries and cultures is yet to be established. Measures developed in western countries do not necessarily work as well in other cultural contexts (Akoto, 2014). Given that concerns about university drop-out rates are universal, it would be beneficial if a robust measure of mastery motivation was available for use across a range of cultural contexts.

Research Context and Aims

The purpose of the current study was to trial the DAMMQ with young adult university students in four different cultural contexts: Australia, Hungary, Bangladesh and Iran. These four countries have a number of contrasting features. Country and population sizes vary greatly. Geographically, Australia is by far the largest country with an area of 7.69 million km², compared with Iran's 1.65 million km² and the considerably smaller Bangladesh (147,570 km²) and Hungary (93,000 km²). Bangladesh is the most populous country with over 162 million people and a population density of 1.124 per km². This contrasts markedly with 106 per km² in Hungary (population approximately 10 million), 48 per km² in Iran (population over 80 million) and only 3 people per km² in Australia where a considerable proportion of the land is largely uninhabitable by the population of 24 million.

Using the Human Development Index (HDI) from the United Nations 2015 Human Development Report (a composite statistic comprising indicators of life expectancy, education and per capita income), Australia and Hungary both rank in the very high tier, scoring .935 and .828, respectively. Australia's ranking is 2nd in the world, and Hungary is ranked 44th. Iran is placed in the next tier indicating high human development with a world ranking of 69 and an index score of .766, while Bangladesh is in the medium tier and has a rank of 142 and a score of .570. It is difficult to locate comparable data on the numbers of young adults who are university students in the four countries. Figures for all types of full-time study suggest that around 45% of Australians aged 20-24 are students, compared with 37% of 18-22 year olds in Hungary, and 34% of 18-25 year olds in Iran. In 2016, the number of Bangladeshi students reported to be enrolled in post-secondary school education was 277,151 and the population of young adults aged 20-29 is estimated to be at least 28 million. These figures suggest that only around 1% of young Bangladeshi adults are attending some form of higher education.

Of note, three of the four countries have experienced significant events relatively recently. Hungary became independent of the USSR in 1989, leading to substantial social, political and economic reforms within the country. Bangladesh's independence in 1971 was followed by a period of economic and political turmoil; however, since 1991 there has been increasing stability and economic progress. According to World Bank data, the rate of extreme poverty has dropped from 44% in 1991 to 13% in 2016. School attendance and literacy rates have also improved dramatically. In Iran, the revolution of the late 1970s, followed by the war with Iraq in the 1980s, produced considerable social, economic and political upheaval. In marked contrast, Australia has experienced none of these major events. One other important difference across the four countries is the fact that Bangladesh and Iran are collectivist cultures that encourage the pursuit of group goals and cooperation, whereas Hungary and Australia (with the exception of the country's indigenous population) are individualistic societies in which personal goals, self-reliance and competitiveness are emphasized.

As noted above, mastery motivation is likely to be impacted by a range of contextual factors. Social and cultural groups may have particular expectations about the levels of effort and achievement that are required, and these expectations may differ for boys and girls (Blackhurst & Auger, 2008). Economic and political factors affect educational and career opportunities, which in turn influence individual strivings for mastery. Periods of war and conflict inevitably disrupt education, and reduced opportunities for the achievement of mastery probably impact on motivation. Following times of economic and political instability, education tends to become a strong focus of efforts to rebuild and strengthen a country. Increased opportunities for the achievement of mastery are likely to stimulate mastery motivation. Traditionally, education has been less accessible for women than for men in countries such as Bangladesh and Iran; however, gender differences in educational opportunities have affected all countries. In most western societies, it is only in the past two or three decades that girls have received the same encouragement as boys to proceed to university education. Globally, social, economic and gender inequalities still limit opportunities for tertiary study (Mullen, 2010). In countries where educational and career opportunities have been limited, it would not be surprising if university students, especially women, displayed lower levels of motivation for mastery. Conversely, it is possible that young people respond to educational disruptions and inequalities by subsequently displaying stronger drives for mastery.

In the current study our specific aims were (1) to trial the newly developed adult measure of mastery motivation in different cultural contexts, (2) to compare different aspects of mastery motivation across the four countries, and (3) to explore gender and age differences in mastery motivation in each of the countries.

Method

Participants

The participants were 469 university students aged 18 to 29 in Australia ($n = 137$), Hungary ($n = 123$), Bangladesh ($n = 122$) and Iran ($n = 87$). The sample included students from the disciplines of psychology, education, optometry (Australia only) and speech therapy (Iran only). There were some psychology students from each country, but the proportion varied from less than 20% in the Hungarian sample to almost 75% in Bangladesh. The Hungarian group predominantly comprised education students, and there were substantial proportions of optometry students in Australia, and speech therapy students in Iran. Females were over-represented. Participant details are shown in Table 1.

Table 1. Characteristics of Participants in the Four Countries

	Australia $n = 137$	Hungary $n = 123$	Bangladesh $n = 122$	Iran $n = 87$
Gender	79% female	83% female	61% female	79% female
Age	M = 21.03 SD = 2.39 range 19-29	M = 22.09 SD = 2.26 range 18-29	M = 22.94 SD = 1.68 range 19-28	M = 21.26 SD = 2.24 range 18-29
Study area				
Psychology	38%			35%
Education	5%	18%	74%	
Optometry	57%	82%	26%	
Speech Therapy				65%

Measure

The Dimensions of Adult Mastery Motivation Questionnaire (DAMMQ; Doherty-Bigara & Gilmore, 2015) is a recently developed 24-item questionnaire that measures mastery motivation in adults. The instrument was developed as an adult extension of the Dimensions of Mastery Questionnaire (DMQ). The DAMMQ has five factors: task persistence (8 items; e.g., *I persist with a task even if I feel it is difficult*), preference for challenge (4 items; e.g., *I enjoy being challenged by difficult tasks*), task absorption (4 items; e.g., *I often lose track of time when I am working on a challenging task*), task pleasure (4 items; e.g., *I feel proud of myself when I am successful*), and self-efficacy (4 items; e.g., *I am good at the things I do*). A total mastery motivation score can be obtained by adding the scores for all items, excluding the four from the efficacy scale. Respondents are asked to indicate how typical each statement is on a 5-point Likert scale from 1 = not at all typical to 5 = very typical, with the instruction to “think of a rating of 3 as being average for a person your age”. The DAMMQ had good internal consistency, test-retest reliability and concurrent validity in a sample of 628 Australian adults aged from 18 to 90 years (Doherty-Bigara & Gilmore, 2015).

For the current study, the DAMMQ was translated for use in Hungary and Iran using the process of translation, back translation, discussion with one of the instrument’s authors, and subsequent item refinement. In Bangladesh, where English is the medium of

instruction at most universities, the English version was trialled with a small sample. As there were only two words whose meaning some students did not clearly understand, we decided to proceed to administer the English version in Bangladesh rather than translating it into Bangla.

Procedure

In each of the four countries, university students were recruited in scheduled lectures and tutorials, and invited to complete a hard copy of the questionnaire during or following the class. The targeted students were those studying education, psychology and other areas of allied health (specifically, speech therapy and optometry). Although it may have been preferable to recruit students from the same discipline of study across the four countries, we were restricted by the courses offered at each university, the classes that were scheduled during the period of data collection, and the class sizes. Thus, we recruited within the broader areas of education and allied health, rather than narrower individual disciplines. Recruitment occurred in October or November which was the early part of the academic year for Hungary, Bangladesh and Iran; in Australia, this timing coincided with the approaching end of the academic year. The questionnaire was completed anonymously.

Data Analytic Plan

After screening the data and excluding questionnaires with more than 20% missing data, our plan for analysis was to calculate internal consistencies for the five DAMMQ subscales and the total scale score. To compare aspects of mastery motivation across the four countries, we conducted a multivariate analysis of variance, using country and gender as the independent variables, and the four DAMMQ subscales as dependent variables. We used two separate analyses of variance for total mastery motivation and efficacy. To consider the effects of age, we used correlational analyses.

Results

As shown in Table 2, Cronbach's alphas were above .7 in all four countries for two of the DAMMQ subscales, Persistence and Preference for Challenge, as well as for total mastery motivation. For the other three variables some alphas were below .6, so item analysis using item-total correlations was used to consider the appropriateness of individual items. As suggested by Field (2013), we identified correlations below .3 and considered whether removal of the item would raise the alpha. For Task Absorption, there was one item below .3 in Bangladesh. Although removal of this item raised the alpha from .44 to .65 in Bangladesh, the alphas in all other countries dropped, most markedly in Iran where the alpha fell from .63 to .51. We thus decided to retain this item, while recognising that it was problematic in Bangladesh. On the Task Pleasure subscale, one item correlated below .3 with the total score in all countries except Australia and its removal increased the alphas in every country (see Table 2). Thus, prior to undertaking MANOVA, this item was deleted.

Table 2. Cronbach's Alphas for the DAMMQ Subscales and Total Scale

Scale	Australia	Hungary	Bangladesh	Iran
Persistence	.79	.80	.72	.79
Preference for Challenge	.78	.84	.72	.85
Task Absorption	.72	.65	.44	.63
Task Pleasure	.71	.58	.54	.76
Task Pleasure with #15 removed	.78	.66	.60	.82
Efficacy	.73	.76	.51	.58
Total mastery motivation*	.89	.88	.84	.90

*excludes Efficacy subscale items

As there were very few instances of missing data (9 unanswered items for 8 participants across the total sample) and the data were missing at random, the values were replaced with the mean of the relevant subscale. A multivariate analysis of variance (MANOVA) was then run using country and gender as the independent variables and the four DAMMQ subscales (Persistence, Preference for Challenge, Task Absorption and Task Pleasure) as the dependent variables. Means and standard deviations are displayed in Table 3.

There were significant main effects for country $F(4,460) = 5.99, p < .001$, partial $\eta^2 = .05$ and gender, $F(4,458) = 4.88, p < .01$, partial $\eta^2 = .04$, and a significant country by gender interaction, $F(4,460) = 3.10, p < .05$, partial $\eta^2 = .03$. All of the effect sizes were small to medium (Cohen, 1988).

Univariate results indicated that the only subscale which differed significantly across countries was Task Absorption, $F(3) = 2.71, p < .05$, partial $\eta^2 = .02$. Post hoc comparisons showed that Bangladeshi students reported significantly lower levels of task absorption than those in Australia or Hungary (both $p < .05$). Males and females differed significantly on two subscales: Persistence $F(1) = 10.14, p < .01$, partial $\eta^2 = .02$, and Preference for Challenge, $F(1) = 9.28, p < .01$, partial $\eta^2 = .02$. On both dimensions of mastery motivation, male students reported higher levels than females.

The country by gender interactions were significant for Preference for Challenge, $F(3) = 3.12, p < .05$, partial $\eta^2 = .02$ and Task Absorption, $F(3) = 3.05, p < .05$, partial $\eta^2 = .02$.

Posthoc comparisons showed that the difference between male and female task persistence was significant in Bangladesh ($p < .01$) and Iran ($p < .05$) with the difference approaching significance in Australia ($p = .057$). Males reported greater preference for challenge in Australia ($p < .01$), Bangladesh ($p < .01$) and Iran ($p < .05$). In addition, Iranian males reported significantly higher levels of task absorption than females ($p < .01$).

Table 3. DAMMQ Subscale & Total Scale Means (Standard Deviations) Split for Country and Gender

	Australia n = 137 ^a	Hungary n = 123 ^b	Bangladesh n = 122 ^c	Iran n = 87 ^d
Persistence				
Total sample	28.19 (4.54)	29.89 (4.58)	29.23 (4.57)	27.09 (4.85)
Female	27.81 (4.50)	29.96 (4.63)	28.35 (4.59)	26.48 (4.87)
Male	29.62 (4.52)	29.52 (4.41)	30.58 (4.23)	29.44 (4.10)
Preference for Challenge				
Total sample	13.78 (2.65)	14.54 (3.14)	14.37 (3.05)	13.38 (3.42)
Female	13.44 (2.59)	14.69 (3.00)	13.78 (2.87)	13.00 (3.53)
Male	15.07 (2.52)	13.86 (3.76)	15.27 (3.13)	14.83 (2.57)
Task Absorption				
Total sample	14.77 (2.67)	15.41 (2.52)	14.02 (2.54)	14.10 (2.80)
Female	14.69 (2.77)	15.57 (2.42)	13.80 (2.61)	13.72 (2.83)
Male	15.07 (2.27)	14.62 (2.87)	14.38 (2.41)	15.56 (2.18)
Task Pleasure				
Total sample	13.51 (1.77)	13.81 (1.51)	13.04 (1.99)	12.95 (2.60)
Female	13.61 (1.69)	13.93 (1.46)	12.81 (2.21)	13.13 (2.69)
Male	13.14 (2.01)	13.24 (1.67)	13.40 (1.54)	12.28 (2.14)
Efficacy				
Total sample	14.43 (2.41)	15.33 (2.56)	14.69 (2.35)	13.80 (2.49)
Female	14.14 (2.37)	15.28 (2.63)	14.50 (2.35)	13.75 (2.60)
Male	15.52 (2.29)	15.57 (2.20)	14.98 (2.35)	14.00 (2.09)
Total Mastery Motivation*				
Total sample	73.56 (9.86)	77.19 (9.93)	74.34 (9.97)	70.59 (11.59)
Female	72.74 (9.77)	77.61 (9.81)	72.31 (9.62)	69.30 (11.92)
Male	76.62 (9.79)	75.14 (10.52)	77.46 (9.79)	75.50 (8.62)

^a female = 108, male = 29; ^b female = 102, male = 21; ^c female = 74, male = 48; ^d female = 69, male = 18

* excludes Efficacy subscale items

The profiles of country and gender differences for persistence and preference for challenge are graphically presented in Figures 1 and 2.

A country x gender ANOVA was run using the total mastery motivation score. There was a significant main effect for gender $F(1,461) = 7.77, p < .01$, partial $\eta^2 = .02$, but no main effect for country. The interaction effect approached significance with a p value of .05 and partial $\eta^2 = .02$. Pairwise comparisons showed significant difference between males and females in Bangladesh ($p < .01$) and Iran ($p < .05$) with a trend towards significance in the Australian sample ($p = .06$).

As the alphas for Efficacy were satisfactory only for Australia and Hungary, just those two countries were included in the ANOVA for this variable. There was a significant main effect for gender, $F(1,256) = 4.54, p < .05$, partial $\eta^2 = .02$, but no main effect for country. Males reported higher efficacy than females. The interaction effect was not significant, but pairwise comparisons showed a significant gender difference in Australia, $F(1,256) = 7.19, p < .01$, partial $\eta^2 = .03$. There was no significant difference between males and females in Hungary.

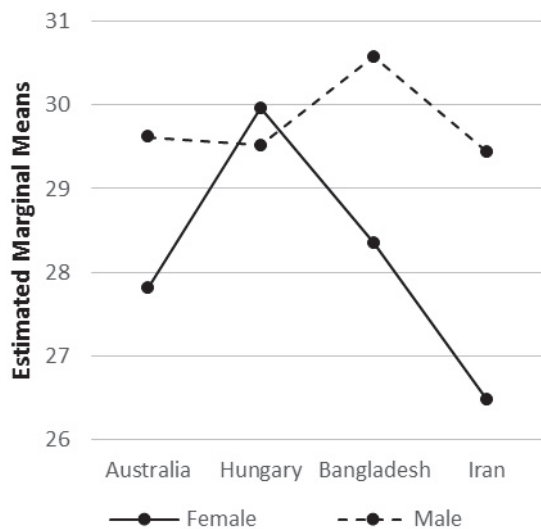


Figure 1. Persistence by country & gender

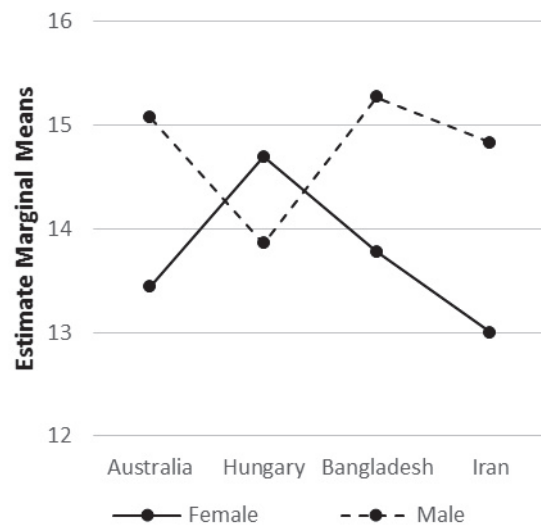


Figure 2. Preference for challenge by country & gender

Correlations of age with mastery motivation indicated significant relationships in Australia for persistence, preference for challenge and task absorption (all $r = .22, p < .01$) as well as total mastery motivation ($r = .27, p < .001$). In Hungary, there were significant correlations of age with persistence ($r = .22, p < .01$) and task absorption ($r = .20, p < .05$). All correlations in Bangladesh and Iran were nonsignificant, ranging from $r = -.08$ to $.04$.

Discussion

This is the first study to examine mastery motivation in university students across cultures, and only the second study to use the newly developed adult measure of mastery motivation. The DAMMQ appeared to be more robust in Australia, the country in which it was developed, than in the other three countries. Nevertheless, alphas for the total scale were similarly high in all countries and subscale alphas reached minimally acceptable levels of $.6$ (Nunnally, 1978) for all four dimensions of mastery motivation with the exception of one subscale (Task Absorption) in Bangladesh. Interestingly, the two words that Bangladeshi students did not easily understand during pilot testing of the English questionnaire (*immersed* and *absorbed*) are both used only in this subscale. It thus seems likely that the low alpha was related to limited understanding or misunderstanding of two of the four items on this subscale.

In retrospect, it would have been preferable to translate the DAMMQ into Bangla for administration in Bangladesh. However, even the most rigorous translation does not necessarily ensure similar understanding of concepts across cultures (De Castella, Byrne, & Covington, 2013), which may explain why some of the subscale alphas were lower in the other three countries than they were in Australia. In addition, some concepts may be more or less salient in particular cultures, especially when

comparisons are being made between individualist and collectivist societies (King & McInerney, 2014) and motivation constructs may have different meanings or mechanisms in different cultural contexts (Täht, Must, Peets, & Kattel, 2014). Studies with the Achievement Motivation Scale have reported considerably lower alphas in non-western countries (Ghana and Malaysia) than in the USA (Akoto, 2014; Komarraju, Karau, & Ramayah, 2007).

Cultural differences in the ways that individuals respond to Likert-style questions also need to be kept in mind when interpreting self-report questionnaires across cultures. Participants in some countries may be more likely to present themselves in positively biased ways. Cross-cultural differences in self-evaluations have been identified previously (e.g., Furnham, Keser, Arteche, Chamorro-Premuzic, & Swami 2009; Kim, Schimmack, Cheng, Webster, & Spectre, 2016), and are presumed to result from cultural or socioeconomic factors (Loughnan et al., 2011).

Despite these issues, the findings suggest that the DAMMQ may be a useful measure of mastery motivation across diverse cultures. The only difference in mastery motivation across the four countries was for task absorption, with Bangladeshi students reporting lower levels. However, as discussed above, this subscale was not robust in Bangladesh, and the finding thus cannot be considered to be interpretable. Of more interest are the significant gender differences that were evident in all countries except Hungary. Female students self-reported significantly lower levels of mastery motivation than did males, although the effect sizes were small. There is no obvious explanation for the lack of gender differences in Hungary. According to a report prepared for the European Commission, in Hungary female participation in tertiary education and in the work force is lower than European averages. However, young women in Hungary reportedly achieve higher results at university than men, even though males do better at high school.

Globally, in the past few decades, the proportion of female university students has risen dramatically, but in some countries gender equality with respect to employment has lagged behind educational opportunities. This is especially so in Iran where the paradox of tradition and modernity impacts on expectations and opportunities for women. Female university students in Iran and in some other countries may be less motivated because they are not hopeful about gaining employment following graduation.

While it is possible that differences in expectations, opportunities and experiences account to some extent for gender differences in mastery motivation, it is important to remember that our findings are based solely on self-report. Previous research has shown that men tend to report somewhat inflated estimates of their own ability (Bennett, 1996; Syzmanowicz & Furnham, 2011) as well as higher self-efficacy than women (D'Lima, Winsler, & Kitsantas, 2014). It is thus possible that the male university students in Australia, Bangladesh and Iran felt more confident and efficacious, and thus reported more positively on their mastery motivation.

Nevertheless, the relatively small number of males within the sample suggests caution in interpreting gender differences. According to the World Data Atlas 2012, 56.7% of Australian university students and 55.5% of Hungarian students are female. The proportions of female students in Iran and Bangladesh are 49.8% and 41.4%, respectively. Our samples thus are not representative of the gender balance in universities. This is largely due to the fact that we targeted students in faculties of education and health that are generally more popular with female students. As well, males tend to be somewhat less willing to participate in research than females.

Age differences in mastery motivation were evident only in Australia and Hungary. Given the likelihood that older students have more experience and are more committed to university study, it is not surprising that they report higher levels of persistence and preference for challenge. As well, older students are more likely to be specializing in areas of personal interest and expertise which may contribute to higher motivation for mastery. Interestingly, however, there were no relationships between age and any aspect of mastery motivation for students in Bangladesh and Iran.

There are several limitations associated with our study that should be considered in the design of future research. First, we focused only on participants within the disciplines of education and allied health, and the samples across countries were not drawn from exactly the same disciplines. Second, the sample was very unbalanced with respect to gender composition. It is possible that gender differences may be less evident, different, or even more pronounced in larger samples or in samples that are drawn from disciplines which have traditionally been more male dominated, such as engineering. Third, it would have been preferable to translate the DAMMQ into Bangla for use in the Bangladeshi context, and this is strongly recommended prior to conducting further mastery motivation research in that country. Another limitation relates to the fact that we did not collect data about the number of years that the participants had been engaged in university study, nor did we explore student perceptions about their university courses, such as the degree of inherent challenge. These data may have been useful for interpreting group differences in mastery motivation.

Despite these limitations, the current study makes some important contributions to the limited literature about adult mastery motivation. The DAMMQ is now available in Hungarian and Persian languages, thus paving the way for further research in those countries. Our comparisons across four different countries suggest that there are similarities in self-reported mastery motivation for university students cross-culturally, a finding that provides some support for the universality of the theoretical construct of mastery motivation. Although the gender differences we identified need further investigation in larger samples, the finding that young women reported lower levels of mastery motivation than men in all countries except Hungary suggests the potential need for universities to encourage and nurture female students in their striving for mastery. Exploring contributors to mastery motivation, stability of dimensions over time, and the extent to which mastery motivation predicts concurrent and future

academic success would all be potentially fruitful avenues for future research with applied implications for universities globally.

Conclusion

The present study differs from previous motivation research that has focused mostly on motives for university study. Using the paradigm of mastery motivation and a recently developed adult measure, we investigated the strength of students' drive for mastery, indicated by their self-reported persistence, preference for challenge, task absorption, and task pleasure across four cultural contexts. Given the importance of university education for a country's prosperity, understanding the motivational factors that underlie academic success is imperative to inform policies and programs for increasing student retention and individual well-being.

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