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Validation of academic motivation scale among medical students using factor analysis and structural equation modeling: Middle Eastern perspective

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Abstract:

BACKGROUND: Demanding careers like medicine requires a lot of motivation and the Academic Motivation Scale (AMS) developed by Vallerand *et al*. (1992) is an instrument to measure motivation. This study evaluated the validity and reliability of AMS among medical students in the Middle East.

MATERIALS AND METHODS: This was a methodological research utilizing a convenient sampling technique. AMS scale comprising 28 items subdivided into seven subscales was administered to 900 students (281 students returned the filled AMS). Data were analyzed using the descriptive statistics, one-way ANOVA, and *t*-tests. Exploratory factor analysis and Cronbach's alpha were used to evaluate the validity and reliability of the scale, respectively.

RESULTS: There was a statistically significant difference between both genders in overall scores ($P = 0.015$*), two subscales, namely "Identified Regulation" ($P = 0.017$*) and "Stimulating Experience" ($P = 0.015$*), with females showing higher value. Second-year students ($n = 91$) had significantly higher score (10.9 ± 4.1) for "Amotivation" ($P = .001$*) and first-year students ($n = 48$) had significantly higher score (16.2 ± 3.0) for "Achievement" subscale ($P = .014$*). $P < 0.05$ was considered statistically significant with 95% confidence interval. No statistically significant difference was observed between the groups based on nationality or age. Bartlett's test of sphericity was significant (Chi-square: 2988.010; df = 278; $P < 0.001$). Kaiser–Meyer–Olkin was 0.890. Principal component analysis with varimax rotation extracted seven factors corresponding to the original items of AMS questionnaire. All subscales correlated positively except "amotivation." Structural equation modeling revealed the relation between observed and unobserved variables.

DISCUSSION: This study demonstrated that AMS is valid and reliable for application among Middle East medical students, without needing any modification. AMS has widespread application in medical education as it impacts learning outcomes.

CONCLUSION: This study demonstrated that AMS is valid and reliable for application among the Middle East students without needing any modification.

Keywords:

Factor analysis, medical students, motivation, reliability, structural equation modeling, validity

Introduction

Learning is a dynamic process and successful learning depends on a number of cognitive and metacognitive factors including motivation, self-regulation, and self-determination.[1] Motivation is a key element in ensuring continuous progress and improvement; it is a natural force that drives individuals towards the betterment

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of their social or intellectual state and allows them to overcome their perceived limitations and obstacles.[2]

Motivation is indispensable in the field of education and plays a vital role in the academic performance of the students. Self-determination theory (SDT) identified several types of academic motivation along a continuum, extending from amotivation to intrinsic motivation.[3] This theory categorizes three levels of academic motivation, namely "intrinsic," which emerges from personal desires and interests; "extrinsic," which is inflicted by external parental or societal pressures; and "amotivation" which signifies the total lack of interest to pursue learning.[4] Some educational studies reported that factors such as autonomy, competence, and relatedness are basic psychological needs that were found to enhance self-motivation.[5-7] Vallerand *et al*. developed an instrument called the Academic Motivation Scale (AMS) to measure SDT.[8]

Individuals in certain careers and professions may have a deeper need for motivation compared to others. In the absence of motivation, some demanding careers like medicine may become even more difficult to pursue.[9] The medical field is a long-term commitment that demands strenuous work and dedication, thus having motivation will allow medical students to exert their utmost powers and abilities in pursuing medicine. The motivational factors can differ from one student to another according to their age, puberty, gender, educational background, ethnicity, and socioeconomic status.[6]

Age is a strong contributing factor to students' motivation; an Australian study revealed that only 52% of young medical school applicants actually had the ambition and the motivation to study medicine.[10] It is also documented that the adolescence associated with advanced pubertal changes are usually associated with lesser academic motivation resulting in lower achievement.[11] A total of 315 students were part of a cross-sectional survey, in which female students had a significantly higher score for "self-efficacy," while male students rated the "study time" and "learning strategies" higher than other factors, which proved that motivation differs based on gender.[12]

A study looking into factors underlying career choices for medical and dental students reported that intellectual challenge and altruism were the motivational factors behind medical students' career choice, while dental students were mainly motivated by financial gains.[13] A national survey in France of 1780 medical students concluded that students' main motivating factors in choosing their careers were the opportunity to encounter interesting diseases and establishing patient contact.[14] Another study of 2867 individuals who were considering applying to medical school has established that science, respect, indispensability and helping people were the four major motivational factors behind their choices.[15]

Graduate entry (GE) medical students with a strong educational background and having already obtained a bachelor's degree were found to have a higher motivation than their non-GE counterparts.[16] Another UK study focused on medical students' ethnicity reported that native students are more likely to be more motivated and perform better than UK-ethnic minorities. However, non-UK-ethnic students had higher performance rates than white students.[15] Motivation was also found to have a positive correlation with academic performance[17] and was found to increase throughout the academic years of medical school.[18]

Amotivation was found to be associated with low autonomy[16] and can lead to anxiety and depression that affect students' performance.[19] It is evident that there are individual and cultural aspects which influence the level of motivation among students.[20] Consequently, many authors have doubted the relevance and application of SDT using AMS in non-western cultures where "interdependence" is given more importance.[21] It is emphasized that "autonomy" does not mean "independence;" rather, it only encourages the sense of volition in all our activities. Researchers from non-western countries such as Africa,[22] Russia,[23] China,[21] and Pakistan[24] have established positive effects of autonomous self-regulation, similar to their western counterparts.

Although AMS has been tested in several studies across the globe, the validity and reliability of this instrument have not been tested among medical students of the Middle East region. There is evidence that social principles and the socioeconomic status of the population have a huge influence on academic motivation and achievement.[25] More scientists recommend that the cultural context needs to be given primary importance while investigating academic motivation.

The need for culturally appropriate tools necessitates investigation of utility of the currently available instruments.[22] To the best of our awareness, AMS is not validated among medical students from the Middle East. Hence, the present study was intended to evaluate the validity and reliability of the AMS instrument among medical students in the Middle East and provide recommendations for modifications, if needed.

Material and Methods

Study design and setting

This study was planned as a methodological research following a cross sectional design, to evaluate the validity

and reliability of AMS among undergraduate medical students studying in Middle East.

Study participants and sample

We followed convenient sampling technique and invited all medical students (150 students per each year for 6 academic years, therefore the sample size was 900) from year 1 to year 6 studying in the College of Medicine and Medical Sciences at the Arabian Gulf University to participate in this study. Data collection lasted for 3 months from January 2016 to April 2016. The students were from different nationalities and backgrounds.

Data collection tool

AMS was originally developed in France by Robert J Vallerand. This scale was based on SDT and consisted of 28 items subdivided into seven subscales that assess extrinsic motivation (EM) (external, introjected, and identified regulation [IDR]), intrinsic motivation (to know, to accomplish things, and to experience stimulation), and amotivation.[8] The authors have declared in the public domain that this scale is open for all the researchers to use without prior permission [Appendix 1]. We utilized this scale with the 6-point Likert scale, ranging from 1 = Strongly disagree to 5 = Strongly agree, and 6 = "Unable to Assess" (UA) [Appendix 2].

Statistical analysis

Series of statistical analyses were conducted to assess the reliability and validity of AMS. Content validity of AMS was established earlier by many authors.[26] Exploratory Factor Analysis (EFA) was used to assess the construct validity of AMS.[27] EFA was also used to confirm whether the scale actually represented the seven-factor structure as mentioned in the literature. The suitability for further analysis was confirmed by Kaiser–Meyer–Olkin (KMO) test of sampling adequacy and Bartlett's Chi-squared test of sphericity.

The items were intercorrelated using Pearson product-moment correlations, which was then decomposed into principal components and rotated to the normalized varimax criterion. A number of factors were extracted based on an eigenvalue >1.[28] This process determined whether the instrument items were aligned with the appropriate constructs (factors) as intended. Each item was assigned to the factor on which it loaded with a loading factor of at least 0.30.[29] Item loaded in more than one factor (cross-loading) was assigned to the highest-loaded factor.[30]

We have also assessed global goodness of fit model indices, such as Chi-square and degrees of freedom (χ^2/df), goodness-of-fit index (GFI), approximate goodness-of-fit indices (AGFI), normed fit index (NFI), relative fit index (RFI), incremental fit index (IFI), Tucker–Lewis Index (TLI), comparative fit index (CFI), standardized root mean square residuals (SRMR), and root mean square error of approximation (RMSEA).

GFI describes how well the model fits the set of observed data and it also shows the degree of variance and covariance. CFI is calculated for comparing the null model with the fits of the proposed model. CFI more than 0.90 implies that the data are acceptable. RMSEA shows how well the model fits the observed data quantitatively. RMSEA value <0.05 is deemed as a good fit. NFI ranges from 0 to 1, with greater values suggesting a better fit.

The internal consistency reliability coefficient was examined by calculating Cronbach's alphas for the total scales and for each factor. A Cronbach's alpha of 0.70 was considered acceptable.[31] The homogeneity of each composite scale was corrected for overlap.[29] An item-total correlation coefficient of <0.4 was considered as evidence that the item was not measuring the same construct measured by the other composite scale items. In addition, Pearson's correlation coefficients were used to estimate the interscale correlations that determined the degree of overlap between the scales.[32]

Structural equation modeling (SEM) was carried out to explore the hypothesized patterns of relation between seven subscales of AMS.

Data were analyzed using IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, New York. The feasibility of the questionnaire was determined using the response rate. For each survey question, the percentage, mean, and standard deviation of UA responses were calculated to identify the viability of items and score profiles. Items with 15%–20% UA responses were deemed in need of revision or deletion.[33,34] Independent "*t*"-tests and one-way ANOVA were done to compare the AMS scores between and within different groups.

Ethical approval

This study was approved by the research and ethics committee of the host institution (E035-PI-12/20). Informed verbal consent was obtained from all the students.

Results

$P < 0.05$ was considered statistically significant with 95% confidence interval.

The descriptive statistics of the participants of this study is shown in Table 1.

For each item of the survey, the percentage, mean, and standard deviation for the response UA were calculated.

The response for UA ranged from 0.4% (item 2) to 10.1% (item 18), falling under the threshold value of 15%; therefore, there was no need for revision or deletion of any of the items. Nine hundred students were invited for the AMS survey, while 281 students returned the filled AMS questionnaire for further evaluation (response rate: 31.2%).

There was a statistically significant difference in overall scores between both genders (P =0.015*) with females (104.9 ± 13.2) showing higher value when compared to males (100.2 ± 10.6) as shown in Table 2. A similar trend was also observed in two subscales, namely "IDR" (P =0.017*) and "Stimulating Experience" (P =.015*).

A statistically significant difference in AMS scores was observed among students belonging to different years, in subscale "Amotivation" (P =0.001*) where second-year students (n = 91) had a significantly higher score (10.9 ± 4.1) when compared to students belonging to other years of study. Likewise, in "Achievement" subscale (P =0.014*), first-year students (n = 48) had significantly higher score (16.2 ± 3.0) as shown in Table 3. No statistically significant difference was observed between groups based on nationality or age.

Bartlett's test of sphericity was significant (Chi-square: 2988.010; df = 278; $P < 0.001$). KMO measure of sampling adequacy was 0.890, showing that it was adequate to perform factor analysis. KMO was done to measure the strength of associations among the variables. Principal component analysis with varimax rotation was performed, which extracted seven factors with eigenvalues > 1. The pattern matrix is displayed in Table 4. Only items with factor loadings of above 0.300 are shown. All the factors loaded correspond to the original items of AMS questionnaire, following the pattern of seven subscales.

The global goodness-of-fit model indices were calculated as χ^2/df (2.664), GFI (0.82), AGFI (0.86), NFI (0.765), RFI (0.735), IFI (0.839), TLI (0.816), CFI (0.837), SRMR (0.07), and RMSEA (0.077).

All subscales correlated positively with subsequently placed adjacent dimensions except "amotivation" which shows a negative correlation with all other subscales, as shown in Table 5.

Figure 1 shows SEM illustrating the relationship among seven subscales of AMS. The rectangles represent factors, circles indicate measurement errors, and ellipses denote the items. The arrows between the items and factors characterize a regression path and numerical one that signifies standardized regression weight. The arrows between the small circles and items symbolize measurement error. The double-headed arrows between the two different factors represent the correlation of covariance of the model.

Table 1: Descriptive analysis

Variables	Number (%)
Nationality	
Bahraini	82 (29.1)
Saudi	39 (13.9)
Kuwaiti	38 (13.5)
Others	03 (01.1)
Missing data	119 (42.3)
Gender distribution	
Males	58 (20.7)
Females	174 (62.0)
Missing data	49 (17.4)
Age distribution (years)	
<21	143 (50.9)
>21	67 (23.8)
Missing data	71 (25.2)
Distribution of students	
Year 1	48 (17.0)
Year 2	91 (32.3)
Year 3	64 (22.7)
Year 4	43 (15.3)
Year 5	5 (01.7)
Year 6	25 (08.8)
Missing data	5 (01.7)

Table 2: The difference in Academic Motivation Scale scores based on gender

AMS subscale	Gender	Mean	SD	*P*
Amotivation	Males (57)	9.2	4.1	0.499
	Females (172)	8.9	3.8	
External regulation	Males (57)	15.4	3.2	0.854
	Females (172)	15.5	3.5	
Introjected regulation	Males (57)	14.8	3.4	0.008
	Females (172)	16.1	3.3	
Identified regulation	Males (57)	16.2	2.6	0.017*
	Females (172)	17.2	2.8	
Knowledge	Males (57)	15.6	2.1	0.077
	Females (172)	16.4	2.9	
Achievement	Males (57)	14.9	3.1	0.085
	Females (172)	15.7	3.2	
Stimulating experience	Males (57)	14.1	2.9	0.015*
	Females (172)	15.1	2.9	
Overall	Males (57)	100.2	10.6	0.015*
	Females (172)	104.9	13.2	

*P<0.05. AMS=Academic Motivation Scale, SD=Standard deviation

Discussion

Educational psychologists have documented that successful learning involves several factors such as cognition, metacognition, self-determination, preparedness to spend adequate time, and capability of self-regulation.[1] SDT is a major theory on motivation,

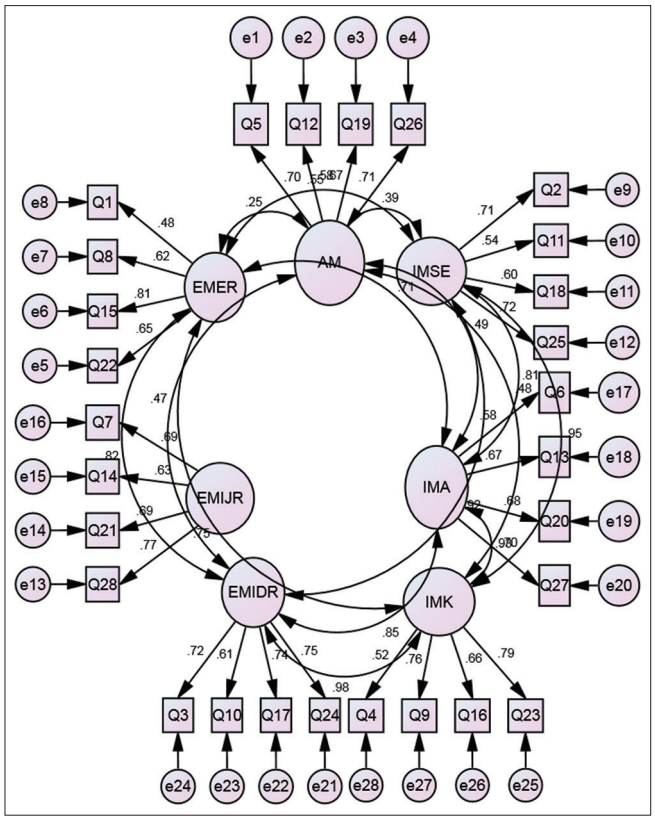

Figure 1: Structural Equation Modeling showing the relationship between seven AMS subscales

based on which AMS is developed comprising seven factors ranging on a qualitative scale from the absence of motivation, also known as "amotivation" through EM (modified by external incentives and penalties) followed by intrinsic motivation (facilitated by inherent interest or inner gratification).[3,8]

In spite of enormous research in the domain of SDT, the application of AMS in medical student population, especially in the Middle East, is scarce. This study has proven that the seven-factor model of AMS can be replicated in a sample of medical students from the Kingdom of Bahrain. Most of the fit indices also confirm that the AMS instrument is appropriate as an application of SDT among medical students in the Middle East. This study has also provided evidence for the validity and reliability of the AMS instrument.

AMS is influenced by age, gender, peer culture, interaction;[4,33] puberty;[11] academic scores exhaustion scale;[6] quality of life;[35] academic self-efficacy;[36] mental workload;[37] stress levels personality;[38] time management skills and anxiety.[39]

Ghiasvand AM, Naderi M, Tafreshi MZ, Ahmadi F, Hosseini M (2017) found that senior students seemed to be largely regulated by more motivational profiles when compared to junior students.[40] However, the results of

Table 3: The difference in Academic Motivation Scale scores based on year distribution

AMS subscale	Year (*n*)	Mean	SD	*P*
Amotivation	1 (48)	8.3	3.8	0.001*
	2 (91)	10.9	4.1	
	3 (64)	9.3	4.1	
	4 (43)	9.2	3.8	
	5 (05)	9.0	5.1	
	6 (25)	7.3	2.9	
	Total (276)	9.4	4.0	
External regulation	1 (48)	15.9	3.2	0.197
	2 (91)	14.5	4.3	
	3 (64)	15.4	3.0	
	4 (43)	15.3	3.8	
	5 (05)	16.7	2.3	
	6 (25)	16.0	3.0	
	Total (276)	15.2	3.6	
Introjected regulation	1 (48)	15.7	3.2	0.344
	2 (91)	14.8	4.2	
	3 (64)	15.9	2.9	
	4 (43)	15.3	3.6	
	5 (05)	15.4	1.9	
	6 (25)	16.0	2.8	
	Total (276)	15.4	3.5	
Identified regulation	1 (48)	17.3	2.2	0.284
	2 (91)	16.0	4.2	
	3 (64)	16.8	3.0	
	4 (43)	16.7	2.5	
	5 (05)	17.6	1.1	
	6 (25)	17.2	2.2	
	Total (276)	16.7	3.2	
Knowledge	1 (48)	16.8	2.6	0.147
	2 (91)	15.3	4.2	
	3 (64)	16.1	2.7	
	4 (43)	15.8	2.8	
	5 (05)	16.8	1.6	
	6 (25)	16.5	1.8	
	Total (276)	16.0	3.2	
Achievement	1 (48)	16.2	3.0	0.014*
	2 (91)	14.1	4.2	
	3 (64)	15.5	3.2	
	4 (43)	14.9	2.9	
	5 (05)	14.6	3.4	
	6 (25)	16.0	2.4	
	Total (276)	15.1	3.5	
Stimulating Experience	1 (48)	15.0	2.1	0.718
	2 (91)	14.6	3.8	
	3 (64)	15.1	3.4	
	4 (43)	14.3	3.0	
	5 (05)	15.9	1.1	
	6 (25)	14.9	2.6	
	Total (276)	14.8	3.2	
Overall	1 (48)	105.3	8.6	0.422
	2 (91)	100.2	21.8	
	3 (64)	104.2	12.1	
	4 (43)	101.4	12.9	
	5 (05)	105.8	10.5	
	6 (25)	103.9	9.8	
	Total (276)	102.6	15.5	

*P<0.05. AMS=Academic Motivation Scale, SD=Standard deviation

Table 4: Rotated factor matrix for the seven Academic Motivation Scale subscales

Item	Amotivation	EM-ER	EM-IJR	EM-IDR	IM- K	IM- A	IM- SE
5	0.705						
12	0.624						
19	0.717						
26	0.728						
1		0.679					
8		0.771					
15		0.411					
22		0.474					
7			0.476				
14			0.716				
21			0.562				
28			0.673				
3				0.463			
10				0.614			
17				0.329			
24				0.420			
4					0.047		
9					0.361		
16					0.737		
23					0.367		
6						0.748	
13						0.645	
20						0.268	
27						0.366	
2							0.054
11							0.203
18							0.682
25							0.571
Eigenvalues	8.554	2.116	1.668	1.406	1.160	1.089	1.043
Variance explained (%)	30.551	7.559	5.958	5.020	4.144	3.891	3.726
Cumulative variance (%)	30.551	38.109	44.068	49.088	53.323	57.123	60.949

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) Index: 0.890, Bartlett's Test of sphericity: χ^2=2988.010; df=278; *P*<0.001. EM=ER: Extrinsic motivation-external regulation, EM=IJR: Extrinsic motivation-introjected regulation, EM=IDR: Extrinsic motivation-identified regulation, IM-K=Intrinsic motivation-knowledge, IM-A=Intrinsic motivation-achievement, IM-SE=Intrinsic motivation-stimulating experience

Table 5: Reliability, means, standard deviations, and correlations for the seven Academic Motivation Scale subscales

Variables	Subscale	Amotivation	EM-ER	EM-IJR	EM-IDR	IM- K	IM- A	IM- SE
Alpha		0.69	0.71	0.74	0.71	0.70	0.71	0.65
Mean		9.45	15.21	15.43	16.64	15.93	15.11	14.77
SD		4.04	3.66	3.55	3.21	3.22	3.49	3.19
Correlation	Amotivation	1.00						
	EM-ER	−0.073	1.00					
	EM-IJR	−0.193**	0.537**	1.00				
	EM-IDR	−0.286**	0.556**	0.601**	1.00			
	IM- K	−0.248**	0.473**	0.599**	0.727**	1.00		
	IM- A	−0.275**	0.463**	0.593**	0.553**	0.665**	1.00	
	IM- SE	−0.199**	0.317**	0.428**	0.640**	0.647**	0.542**	1.00

***P*<0.01. EM-ER=Extrinsic motivation-external regulation, EM-IJR=Extrinsic motivation-introjected regulation, EM-IDR=Extrinsic motivation-identified regulation, IM- K=Intrinsic motivation-knowledge, IM-A=Intrinsic motivation -achievement, IM-SE=Intrinsic motivation-stimulating experience, SD=Standard deviation

this study suggest that there was no difference in AMS scores between different age groups or nationalities. However, there was a statistically significant difference in overall scores between both genders where females exhibited higher scores overall and in two subscales namely "IDR" and "Stimulating Experience" when compared to males. This finding is in consensus with the conclusion made by Vallerand *et al*. (1992, p. 1015) that "female students display a more self-determined motivational profile than male students".[8] Our finding is supported by Ratelle *et al* (2007),[41] Guay (2015)[42] and Kunanitthaworn, (2018) who showed that women

had tendency to be more intrinsically motivated than men.[43]

Stover, 2012 documented that academic motivation differed based on educational levels.[44] Likewise, in our study, we observed a statistically significant difference in AMS scores among students belonging to different years. Second-year students scored high in subscale "Amotivation," whereas first-year students scored significantly high in "Achievement" subscale. A similar finding was shown in other studies as well, emphasizing that first-year (preclinical) students had more intrinsic motivation when compared to their seniors. These findings endorse the need for incorporating educational strategies to improve intrinsic motivation, thereby enabling their desire to learn and prosper in medical career.[45]

Many authors have shown that the adjacent subscales of the self-determination continuum correlate positively, while the distant subscales correlate negatively. They also believed that IM subscales exhibit a higher correlation when compared to EM subscales because the origins of IM subscales were internal with more homogeneousness.[8,23,43,46-49] In agreement with this finding, we also observed in our study that all the adjacent subscales showed moderate-to-strong positive correlation except "amotivation" subscale which correlated negatively with all other subscales.

Such deviations were also reported in the Spanish and Paraguayan literature where EM-IDR showed a higher correlation with EM-ER in spite of not being adjacent subscales.[46] This behavior was explained by Cokley *et al*. (2012),[35] who described that the demarcation between EM and IM might become less obvious in few circumstances, going against the original hypothesis of Ryan and Deci.[7] Reiss also postulated that "the weight of recent evidence suggests that intrinsic and extrinsic tendencies may best be conceived as two independent orientations, not just two endpoints on a single continuum."[50]

The novelty of this research is that this is one of the first studies reported from the Middle East, validating the AMS among undergraduate medical students.

However, this study is from a single institution, and therefore, the results have to be generalized with caution. The response rate was less and the participation from year five students was very minimal. A longitudinal study design would have given more insight into the long-term effects of SDT. Self-reporting of AMS could be seen as a potential bias, and therefore, we need to explore more objective measures to evaluate academic motivation.

It is recommended to conduct, multicentric studies taking into account the influence of other variables like academic scores, quality of life, mental workload, stress levels and type of personality on AMS.

Conclusion

The primary objective of the present study was to evaluate the validity and reliability of AMS instrument for possible application among students of the Middle East. This study demonstrated that AMS developed by Vallerand, RJ, (1992) is valid and reliable for application among the Middle East students without needing any modification. AMS has widespread application in health care and education as it emphasizes the importance of self-directed learning and other related competencies.

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Conflicts of interest

There are no conflicts of interest.

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Appendices

Appendix 1: Academic Motivation Scale questionnaire

Academic Motivation Scale

Why do you go to a college?

Student Name: Gender:

Student ID: Year:

Nationality:

Please tick (✓) the applicable box using the below key:

1- Strongly disagree 2- Disagree 3- Neutral 4- Agree

5- Strongly agree 6- Unable to assess

Appendix 2: Permission from authors to use Academic Motivation Scale

Sr. No	Why do you go to college?	1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree	6 Unable to assess
Q1.	Because I would not find a high-paying job later on with only a high-school degree.						
Q2.	Because I experience pleasure and satisfaction while learning new things.						
Q3.	Because I think that a college education will help me better prepare for the career I have chosen.						
Q4.	For the intense feelings I experience when I am communicating my own ideas to others.						
Q5.	Honestly, I don't know; I really feel that I am wasting my time in school						
Q6.	For the pleasure I experience while surpassing myself in my studies.						
Q7.	To prove to myself that I am capable of completing my College degree.						
Q8.	In order to obtain a more prestigious job later on						
Q9.	For the pleasure I experience when I discover new things never seen before.						
Q10.	Because eventually it will enable me to enter the job market in a field that I like.						
Q11.	For the pleasure that I experience when I read interesting authors						
Q12.	I once had good reasons for going to college; however, now I wonder whether I should continue						
Q13.	For the pleasure that I experience while I am surpassing Myself in one of my personal accomplishments.						
Q14.	Because of the fact that when I succeed in college I feel important.						
Q15.	Because I want to have "the good life" later on						
Q16.	For the pleasure that I experience in broadening my Knowledge about subjects which appeal to me.						
Q17.	Because this will help me make a better choice regarding my career orientation.						
Q18.	For the pleasure that I experience when I feel completely absorbed by what certain authors have written.						
Q19.	I can't see why I go to college and frankly, I couldn't care less						
Q20.	For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.						
Q21.	To show myself that I am an intelligent person						
Q22.	In order to have a better salary later on						
Q23.	Because my studies allow me to continue to learn about many things that interest me						
Q24.	Because I believe that a few additional years of education will improve my competence as a worker.						
Q25.	For the "high" feeling that I experience while reading about various interesting subjects.						
Q26.	I don't know; I can't understand what I am doing in college						
Q27.	Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.						
Q28.	Because I want to show myself that I can succeed in my studies.						