

# HOW TO MOTIVATE MEDICAL SCHOOL STUDENTS

Waleed Mohammad AlHarbi

**Abstract**— This paper investigates what motivation means and what factors influencing learners' motivation in general and medical students' in particular. The paper explores empirical and theoretical research studies that examine medical students' motivation, the types and sources of motivation, and causes of lack of motivation. The paper highlights major theories and views of motivation. The research found that the psychological motivation for medical student learning is determined by internal and/or external factors. The results indicated that medical students are inherently motivated yet may experience events and situations that adversely affect their motivation. Whether intrinsically or extrinsically motivated, medical students must maintain and strengthen their motivation and medical educators and professionals should support them taking into consideration factors that can be manipulated, such as providing and encouraging autonomy, rewards, feedback, assessments, self-efficacy, in addition to adopting educational method, including problem-based learning curriculum.

**Index Terms**— intrinsic motivation, extrinsic motivation; self-efficacy; theories and views of motivation

## 1 INTRODUCTION

The term motivation is often heard in conversation and academic prose. It is used by both the common people and educational psychologists. If the common people were asked to define motivation, many would give the technical definition; that is, it is a state of mind that causes one to act. In other words, "To be motivated means to be moved to do something" (Ryan & Deci (2000, p. 54). On the other hand, educational psychologists give a more specific definition of motivation as it is a complex construct that abounds with different connotations and concepts related to learning and educational development (Sobral, 2004). For example, Scholl (2007) defined motivation as "the ability to control the behavioral effects of negative emotions (e.g., anger, fear, and anxiety) and perform in a positive way even when emotional state is negative. Understanding educational motivation and behavioral motivation is important, yet, it is more important to realize what influences the construct of motivation.

Several theoretical structures have been established to better understand the construct of motivation. Motivation theory was described as "a multiplicative function of the strength of the motive, the expectancy (subjective probability) that the act will have as a consequence the attainment of an incentive, and the value of the incentive" (Atkinson 1966, as cited in Perrot et al., 2001, p. 194). Other researchers, including Beck, Dollard and Miller; Hull; and Veroff, came to an agreement with the work of Atkinson, indicating that "The study of motivation deals with the causes of goal oriented activity" (Dweck, 1986, as cited in Perrot et al., 2001, p. 194).

From a psychologists' point of view, motivation is the "whys' of all human behavior" (Nieuwhof, ten Cate, Oosterveld, & Soethout, 2004, p.1) including the needs that drive and explain what people do. Maslow outlined a hierarchy of human needs; he proposed that motivation directs behavior, in order to meet basic needs, beginning with survival and safety needs, progressing through belonging and esteem needs, and ending with intellectual and aesthetic needs. Maslow reflects a humanistic views of motivation (Huitt, 2011).

There are other theories of motivation that address its con-

cepts and sources, starting before and after the humanistic theories of Maslow. For example, Freud proposed an important view about all human behaviors that were a result of internal, biological instincts of life and death (Huitt, 2011); a psychoanalytic view of motivation that was supported by many students of Freud. Another meta-theory of work motivation developed by Leonard, Beauvais, and Scholl (1999) proposed five sources of motivation: 1) instrumental motivation (rewards and punishers); 2) intrinsic process motivation (enjoyment, fun); 3) goal internalization (self-determined values and goals); 4) internal self-concept-based motivation (matching behavior with internally-developed ideal self); and 5) external self-concept-based motivation (matching behavior with externally-developed ideal self). Individuals are influenced by all five factors, even though in varying degrees that can change in specific situations.

Another theory of motivation was proposed by deCharms that examined different sources of motivation: intrinsic versus extrinsic (as cited in Ryan & Deci, 2000, p. 55). Based upon Self-Determination Theory, Deci & Ryan (1985) defined the two types of motivation; intrinsic motivation is defined as "doing something because it is inherently interesting or enjoyable," while extrinsic is defined as "doing something because it leads to a separable outcome" (as cited in Ryan & Deci, 2000, p. 55).

Intrinsically motivated behaviors occur when students generate the motivation from within, taking pleasure in doing something just for the sake of doing it; these types of behaviors are said to represent "internal causality," (Leonard et al., 1999, p. 970) whereas extrinsically motivated behaviors occur on the presence of external controls, such as incentives, and are said to represent "external causality" (Leonard et al., 1999, p. 970). Intrinsic and extrinsic motivations are also distinguished in terms of mastery and performance. Many researchers, including Beck, Dollard and Miller; Hull; and Veroff, came to an agreement with the work of Atkinson and her equation: "Motivation = f(Motive×Expectancy×Incentive)" (Perrot et al., 2001, p. 194), indicating that "The study of motivation deals with the causes of goal oriented activity" (Dweck, 1986, as cited in Perrot et al., 2001, p. 194). Mastery is referred as intrinsic learning oriented,

whereas performance is called extrinsic goals oriented.

Huitt (2011) provided an overview of the different theories and sources of motivation in addition to the psychoanalytic and humanistic theories of motivation, adding the behavioral, cognitive, and affective views. Behaviorism suggests that motivation results from effective reinforcers that provide incentives to increase behavior or disincentives to decrease behavior (Huitt & Hummel, 1997, as cited in Huitt, 2011). Cognitive theories of motivation focus on learners' beliefs, expectations, and needs to "develop meaning or understanding, solve a problem or make a decision, and eliminate threat or risk" (Huitt, 2011). One more significant theory is the affective view of motivation that "deals with the way in which individuals experience, process, and behave based on emotions" (Scholl, 2007). According to Scholl (2007), individuals experience emotional reactions to either positive, neutral, or negative situations. Positive situations increase emotional reactions, such as feelings of security, while negative situations lead to a negative affective state of feelings, such as anxiety. When an individual experiences unnoticeable feelings, it could be as a result of the neutral affective state (Scholl, 2007). Taking the various definitions, views, and sources of motivation into account, motivation is assumed to be a "multifaceted structure related to learning and academic achievement" (Yousefy, Ghassemi, & Firouznia, 2012, p. 1). Virtually all learners are motivated in one way or another toward achieving their personal or professional career. Here lies the importance of motivation; "a learned behavior will not occur unless it is energized" (Huitt, 2011). Like all learners in different fields of study, medical students have different types of motives. These could be generated internally, such as interest in helping people, and/or from external factors, such as pressure from parents. This paper explores to what extent medical students are intrinsically or extrinsically motivated. What are the causes of lack of motivation? What strategies that may be used by medical educators to strengthen students' motivation?

## 2 LITERATURE REVIEW

Sobral (2004) studied the relationship of medical students' motivation with learning features and motivational outcomes, seeking to describe whether medical students are intrinsically or extrinsically motivated. Using the Academic Motivation Scale (AMS), the author found that the students' high levels of "autonomous motivation" score more than those of "controlled motivation" (Sobral, 2004, p. 950). Her findings indicated that autonomous (intrinsic) motivation had more significant correlation than controlled (extrinsic) motivation with motivation of "self-regulation and academic success in the contact of a demanding medical program" (Sobral, 2004, p. 953). The findings of this study also showed that autonomous motivation is stronger than controlled motivation in terms of "meaning orientation, reflection in learning, academic achievement, and peer-tutoring experience" (Sobral, 2004, p. 950).

Mann (1999) asserted that medical students' intrinsic motivation may in turn benefit patients by providing them an autonomy-supportive style. Mann believed that medical students must be motivated and equipped with the skills, knowledge, values, and attitudes that will prepare for lifelong learning

and providing care to their patients and communities. Although intrinsic motivation is seen as more desirable than extrinsic motivation that "comes from outside the learner and is not sustained internally" (Mann, 1999, p. 238), the two types of motivation complement each other and they often co-exist. Mann added that the opportunity for learners to practice a skill and then master it is an example of shifting from extrinsic to intrinsic motivation. Mann (1999) stressed that self-efficacy is a related concept that supports and encourages motivation. Brissette and Howes (2010) believe that the types of motivation are not dichotomous. There is a shift between the different types of motivation based upon situations and contexts. The authors highlighted a common misconception held by adults and some medical curricula developers that medical students are internally motivated with no external influences, such as receiving rewards and incentives. Brissette and Howes (2010) believe that internal motivation is not necessarily stronger than external motivation. The authors found that internal motivation is not the "ultimate determination of all of our behavior" (p. 4). For example, one may not intrinsically motivated toward an action, yet he/she could be motivated as a result of external factors, such as rewards. Brissette and Howes (2010) concluded the fact that students may learn in different ways and have dissimilar patterns of motivation. Perrot, Deloney, Hastings, Savell, & Savidge (2001) tested the motivation of students in health professions and considered that motivation had three goal orientations: mastery, performance and alienation. They found that a majority of students preferred mastery orientation and that mastery learners were more likely to prefer meta-cognitive learning strategies. The authors concluded that most students, regardless of their goal orientation, believed that they have "internal locus of control" (Perrot et al., 2001, p. 201).

Misch (2002) conducted a study of adult education (called andragogy) to examine the hypothesis of androgenic by Knowles. The hypothesis simply states that "adult learners are more motivated by internal than external factors" (Misch, 2002, p.153). The study showed that the medical students' internal and external motivations are "contextually-situated" (Misch, 2002, p. 159) and interrelate with one another in a complex way. The author suggested that the issue of motivation for medical students is relevant to medical educators' decision making regarding admission, curriculum, and assessment. Exploring the true motivation for medical student learning is challenging and time-consuming; instead, medical educators should focus on enhancing and developing a curriculum that "rewards a true love of learning and medical students who are genuinely internally motivated to learn" (Misch, 2002, p. 160).

Nieuwhof et al. (2004) believed that medical students are naturally motivated to become physicians; it is a type of intrinsic motivation generated by the three needs of Maslow's hierarchy of motivation, a need for esteem, a need for knowing and understanding, as well as a need for self-actualization. Nieuwhof et al. (2004) believed that medical students vary in their strength of motivation to pursue medical training and found that there is a positive correlation between "motivation scores and the determination to apply for medical school" (Nieuwhof et al. (2004, p. 5).

Kusurkar, Ten Cate, Van Asperen, & Croiset (2011) tried to answer the question "how is motivation useful in predicting and understanding processes and outcomes in medical education?" (p. 242). The authors gave other reasons why motivation of medical students could be different from general education students; one reason is the practicality of a clinical work that is not typical existent in other general education fields. Because medical education is a restricted profession, Kusurkar et al. (2011) believed that medical students are considered more motivated than other students of general education since they have to go through a considerable effort to enter medical school. The authors concluded that motivation affects learning and study behavior, academic performance, choice of medicine and specialty within medicine, and intention to continue medical study (Kusurkar et al., 2011, p. 242). Motivation is affected by age, gender, socioeconomic status, ethnicity, personality, year of medical curriculum, and teacher and peer support. Finally, Kusurkar et al. (2011) found that motivation was affected by autonomy, competence, and relatedness.

Kusurkar (2012) investigated the factors influencing medical students' motivation as well as the outcomes and application of their motivation. The results showed that intrinsic motivation is related to deep study strategy, high study effort, and good academic performance. Furthermore, motivation is influenced by age, gender, maturity, educational background. Kusurkar (2012) stressed the importance of consideration to motivation in medical students in terms of reforms in medical corpulence because medical students are internally motivated yet intrinsic motivation can still be enhanced through teaching-learning practices as Kusurkar (2012) found:

Intrinsic motivation (learning, for the sake of learning) leads to better learning and performance as compared with extrinsic motivation learning for reward) and can be enhanced by providing students with autonomy in learning, feedback on their performance, and emotional support. (p. 157)

Yousefy et al. (2012) examined the relationship between motivation components and the academic achievement of medical students and found high total motivation scores reflected the students' high motivation. This is to say, the study indicated a significant relationship between academic achievement and motivation; the authors attributed the correlation to the fact that "medical students' success is closely tied to public health," and thus they recommended that "more attention be paid to motivation components by the authorities" (Yousefy et al., 2012, p. 3). The authors concluded that students' academic achieving requires coordination and interaction between different aspects of motivation, believing that motivation is affected by four factors: situation (external stimuli), mood (internal state of mind and emotion), goal (behavioral tendency), and tool (for goal achievement) (Yousefy et al., 2012, p. 1).

### 3 DISCUSSION

If medical students are considered inherently motivated as adult learners for several reasons, do they lose motivation? Are there factors that demotivate medical students? What might be the causes of the lack of motivation? Ryan & Deci (2000) pointed out that if someone "feels no impetus or inspiration to act is thus characterized as unmotivated" while when

a person feels "energized or activated toward an end is considered motivated" as unmotivated (p. 54).

Again, there are many reasons why medical students are seen intrinsically motivated; one major issue is that for a student to enter a medical school, he/she must be psychologically and emotionally ready to experience some admission procedures, such exams and interviews; this makes a medical school different from general education fields.

Sobral (2000) posed a question, "Does academic motivation remain consistent over time and across distinct situations of the medical undergraduate training?" (p. 956). When medical students are already enrolled, they will go through other experiences, such as a clinical work, which will affect their motivation to learn. Because of many tasks that medical students are required to do, they may lose their intrinsic motivation. Therefore educators should motivate medical students through developing teaching strategies that "promote volitional 'versus passive and controlling' forms of extrinsic motivation" (Ryan & Deci, 2000, p. 55).

Henning, Krägeloh, Hawken, Zhao, and Doherty (2010) investigated the issues that impact medical students' quality of life and their motivation to learn and found that medical school students experienced sleep problems and anxiety that "reduced concentration and learning efficiency" (p. 249). The results of Henning et al. (2010) are similar to earlier studies which found resident doctors in the United States experienced sleep loss and fatigue that, in turn, negatively affected their quality of life personally and professionally (p. 246). The quality of life themes included physical, psychological, social relations, and environmental issues that may cause the lack of motivation.

This raises the importance of intervention to ensure that medical students have a sense of being motivated to keep learning and completing their study successfully. Mann (1999) stressed that medical education depends on students' motivation to become doctors who should be motivated learners to accept personal responsibility for lifelong learning. Mann (1999) pointed out that it is a challenge for medical educators to detect learners who appear unmotivated. Many researchers introduced different strategies that can be used to strengthen medical students' motivation and thus achieve their goals. Below are some common factors that can be used to positively influence medical students' motivation.

### 4 CONSIDERING A PROBLEM-BASED LEARNING CURRICULUM

Brissette and Howes (2010) stated that "modern medical education curricula are based on the premise that students have an inherent desire to become physicians and are motivated by internal rather than external factors" (p. 2). It is crucial to provide learners with opportunities to reflect on what they learn; this is a way that educators can determine the learners' experience, actions, and perceptions (Mann, 1999, p. 239). Kusurkar et al. (2011) found that some educational methods, including practice-based learning, experiential learning, cooperative learning, and problem-based learning (PBL) curriculum have desired impacts in motivation; such teaching/learning methods motivate students to "learn for learning's sake" (p. 248).

This is due to the autonomy support that promotes intrinsic motivation. Kusrkar et al. (2011) and Mann (1999) stressed that a PBL curriculum is unlike traditional curriculum; the latter motivates students to learn for the sake of receiving high grades (extrinsic motivation), whereas former provides "higher autonomy to students in their learning" (Kusrkar et al., 2011, p. 248).

## 5 ENCOURAGING SELF-EFFICACY

When students are provided with opportunities to practice what they learn, they gradually build confidence that can strengthen motivation (Mann, 1999, p. 239). This helps students be intrinsically motivated as they challenge themselves to perform different tasks. Also, intrinsic motivation was found in a positive correlation with perceived self-efficacy (Kusrkar et al., 2011, p. 248). Self-efficacious students can recover quickly from setbacks and thus can meet their objectives. Educators can improve students' self-efficacy through providing feedback as it "helps refine self-assessment and motivates further learning" (Mann, 1999, p. 239). Educators can also encourage self-efficacy through peer support as it "will likely engender more positive relationships, psychological wellness, and social support, and develop more positive aspects of social interdependence (Johnson et al., 2007, as cited in Henning et al., 2010, p.251).

## 6 MAKING LEARNING REWARDING

Learning should be fun and exciting. Even though medical students are naturally motivated, they need supportive environment where their input is valued (Mann, 1999, p. 239) and where they are themselves encouraged and prepared for life-long learning. Medical students exert efforts throughout their study and are worth appreciation and recognition. Recognizing their hard work will help them maintain their intrinsic motivation. The importance of having an honor system is to motivate and not demotivate students (Kusrkar et al., 2011, p. 249). On the other hand, educators should be careful when using an honor system as it could have adverse effects on some students. Educators should not introduce a task while providing external incentives as incentives may not enhance medical students' intrinsic motivation to learn. In other words, a reward must be used as a means to an end rather than an end in itself.

## 7 MATCHING ASSESSMENT WITH GOALS

When assessing learners' performance, it is important that educators consider all goals as assessment "drives what students are motivated to learn" (Mann, 1999, p. 239). In addition, the assessment system should be related to "effects on deep motive and deep strategy for learning and professional identity" (Wilkinson et al., 2007, as cited in Kusrkar et al., 2011, p. 248).

## 8 CONCLUSION

Motivation and learning are innately related. It may be important to examine what type of motivation medical students have or influenced by; whether it is intrinsic or extrinsic motivation, there are several factors that affect medical students. Some of these factors cannot be used to strengthen students' motivations, such as age, gender, ethnicity, socioeconomic status, and personality. Educators must be aware of the other factors that can be manipulated to keep and increase the motivation of their students, including using some effective teaching and learning methods, providing feedback on performance, enhancing self-efficacy, and offering autonomy support. Brissette and Howes (2010) suggested that:

Components of the learning environment like communication style, curriculum, and assessment methods not only effect how much effort students put forward, but the longer term nature of how they are motivated in their careers. If we continue to create medical school curriculum and assessment tools without improving our understanding of the nature of motivation we have the potential to cause significant detriment to our students. At best, we may be missing an opportunity to significantly enrich their lives. (p. 4).

Taking these strategies into account, medical educators can help students maintain motivation to learn as physicians. Several studies found evidence in favor of the correlation between motivation and academic performance, including Yousefy et al. (2014) that concluded "Motivational factors affect academic achievement significantly and since medical students' success is closely tied to public health, it is suggested that more attention be paid to motivation components by the authorities" (p. 3). To help medical student to continue be "active, independent, self-directed" learners," educators must work on motivating their students (Robbins, 1996, as cited in Perrot et al., 2001, p. 193).

## REFERENCES

- [1] Brissette, A., & Howes, D. (2010). Motivation in medical education: A systematic review. *WebmedCentral Medical Education*, 1(12), 1-9. Retrieved from [http://www.webmedcentral.com/wmcpdf/Article\\_WMC001261.pdf](http://www.webmedcentral.com/wmcpdf/Article_WMC001261.pdf)
- [2] Henning, M., Krägeloh, C., Hawken, S., Zhao, Y., & Doherty, I. (2010). Quality of life and motivation to learn: A study of medical students. *Issues in Educational Research*, 20(3), 244-256. Retrieved from <http://www.iier.org.au/iier20/henning.pdf>

- [3] Huitt, W. (2011). Motivation to learn: An overview. Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved from <http://www.edpsycinteractive.org/topics/motivation/motivate.html>
- [4] Kusurkar, R. A. (2012). Motivation in medical students: A PhD thesis report. Perspectives on Medical Education, 1(3): 155-157. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3540346/>
- [5] Kusurkar, R. A., ten Cate, Van Asperen, M., & Croiset, G. (2011). Motivation as an independent and a dependent variable in medical education: A review of the literature. WEB PAPER, 33, e242-e262. Retrieved from [http://www.selfdeterminationtheory.org/SDT/documents/2011\\_Kusurkar\\_ReviewMedEduc.pdf](http://www.selfdeterminationtheory.org/SDT/documents/2011_Kusurkar_ReviewMedEduc.pdf)
- [6] Leonard, N., Beauvais, L., & Scholl, R. (1999). Work motivation: The incorporation of self-concept-based processes. Human Relations, 52(8), 969-998. Retrieved from [http://www.cce.uri.edu/research/lrc/scholl/research/papers/Leonard\\_Beauvais\\_Scholl-1999.pdf](http://www.cce.uri.edu/research/lrc/scholl/research/papers/Leonard_Beauvais_Scholl-1999.pdf)
- [7] Mann, K. V. (1999). Motivation and medical education: How theory can inform our practice. Academic Medicine, 74(3), 237-239. Retrieved from [http://journals.lww.com/academicmedicine/Abstract/1999/03000/Motivation\\_in\\_medical\\_education\\_how\\_theory\\_can.11.aspx](http://journals.lww.com/academicmedicine/Abstract/1999/03000/Motivation_in_medical_education_how_theory_can.11.aspx)
- [8] Misch, D. A. (2002). Andragogy and medical education: Are medical students internally motivated to learn? Advances in Health Sciences Education Theory and Practice, 7(2), 153-160. Retrieved from <http://link.springer.com/article/10.1023/A:1015790318032>
- [9] Nieuwhof, M., ten Cate, O., Oosterveld, P., & Soethout, M. (2004). Measuring strength of motivation for medical school. Medical Education, 9(16). Retrieved from <http://med-ed-online.net/index.php/meo/article/viewFile/4355/4537>
- [10] Perrot L. J., Deloney L. A., Hastings, J. K., Savell, S., & Savidge, M. (2001). Measuring student motivation in health professions' colleges. Advances in Health Sciences Education, 6(3), 193-203. Retrieve from <http://link.springer.com/article/10.1023%2FA%3A1012606722230>
- [11] Ryan, R. M. & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. Contemporary Educational Psychology, 25(1), 54-67. Retrieved from [http://www.selfdeterminationtheory.org/SDT/documents/2000\\_RyanDeci\\_IntExtDefs.pdf](http://www.selfdeterminationtheory.org/SDT/documents/2000_RyanDeci_IntExtDefs.pdf)
- [12] Scholl, R. W. (2007). Affective motivation & emotional competency. Schmidt Labor Research Center. University of Rhode Island. Retrieved from [http://www.uri.edu/research/lrc/scholl/webnotes/Motivation\\_Affective.htm](http://www.uri.edu/research/lrc/scholl/webnotes/Motivation_Affective.htm)
- [13] Sobral, D. T. (2004). What kind of motivation drives medical students' learning quests? Medical Education, 38(9), 950-957. Retrieved from <http://www.themedfomscu.org/media/elip/What%20kind%20of%20motivation%20drives%20medical%20students.pdf>
- [14] Yousefy, A., Ghassemi, G., & Firouznia, S. (2012). Motivation and academic achievement in medical students. Journal of Education and Health Promotion, 1(1), 1-4. Retrieved from [http://www.jehp.net/temp/JEduHealthPromot114-3288415\\_090804.pdf](http://www.jehp.net/temp/JEduHealthPromot114-3288415_090804.pdf)