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A REVIEW OF ACADEMIC AMOTIVATION AND THE APPLICATION OF MIRACLE QUESTION AMONG ADOLESCENTS

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Abstract:

Academic amotivation contributed to maladaptive functioning and negatively affected the academic engagement of adolescent students. This paper aimed to study on the application of the Miracle Question (MQ) in facilitating adolescents with academic amotivation. The present work also demonstrated the underlying theories of academic amotivation (i.e., Self-Determination Theory) and MQ (i.e., Solution-Focused Brief Therapy). A three-part process model and practical effects of MQ were included for practitioners such as school counselors and teachers to assist adolescents better. The main implication of this paper is to highlight the potential of MQ to stand alone as a primary technique in school counseling and teaching practices. More qualitative research on school-based interventions using MQ is recommended.

Keywords:

Miracle Questions, Academic Amotivation, Adolescent

Introduction

Motivation research concerns what would move people to act, think, and develop, and thus focuses mainly on the conditions and processes that facilitate persistence, performance, healthy development, and vitality in human behaviors (Deci & Ryan, 2008a; Ng, 2019). Students' study behavior is determined and driven by multiple factors, such as a spontaneous interest in the

learning material, a desire to prove oneself by obtaining high grades, external expectations, or future professional goals (Vansteenkiste et al., 2009).

Human beings have acquired adequate motivation to achieve their goals, needs, and instincts (Amrai et al., 2011). The reasons why people behave in a particular way are defined and determined by motivation (Amrai et al., 2011). Relatively speaking, the study of motivation is referred to as the study of the forces that urge and direct individuals' actions and behavior.

Erikson stated that adolescents (aged 10 to 20 years) would experience an identity crisis versus identity confusion in which they start to explore self and life direction (Sokol, 2009; Santrock, 2013). In the Malaysian education system, the secondary education is divided into two stages: (i) lower secondary education (Form One to Three) from age 12 to 14 years and above, and (ii) upper secondary education (Form Four to Five) from age 15 to 16 years and above (Ministry of Education Malaysia, 1998; Study Malaysia, 2015). Hence, secondary school students in Malaysia have dealt mostly with adolescent crises while striving for academic success.

Secondary school students' academic achievement is proven to be influenced by the extent to which the students are motivated (Tella, 2007). Academically, highly motivated students perform better than the lowly motivated students (Tella, 2007; Alivernini & Lucidi, 2011). Meanwhile, negative consequences were presumed if at-risk students are isolated or alienated from school (Scheel et al., 2009).

Based on dropout rates, academic settings are unable to provide students with intrinsically or extrinsically motivating academic experiences, and hence seemed out of touch with the at-risk adolescents (Scheel et al., 2009). Academic motivation occurs when the students interact with (i) other academically motivated students, (ii) teachers who do not give up on them, (iii) family members who take high school graduation seriously, and (iv) counselors who prevent the student from becoming lost or invisible in school (Scheel et al., 2009).

Furthermore, academic amotivation leads to maladaptive functioning, and many adolescent students show significantly reduced academic engagement (Cheon & Reeve, 2015; Archambault et al., 2009; Janosz et al., 2008). Critically, it was vital for helping students achieve in school and succeed in life by helping them develop their ways to understand personal motivational structures and to motivate their behavior (Squier et al., 2014). In cases like this, school counselors can help them develop the required knowledge, skills, and work habits in what the students find motivating (Squier et al., 2014). By understanding, cultivating, and developing their areas of intrinsic interest, the students' appropriate career directions and academic specializations can be reflected (Squier et al., 2014).

Self-Determination Theory (SDT)

The self-determination theory (SDT; Deci & Ryan, 1991, 2000) is useful for understanding students' optimal functioning in school by studying multidimensional components of motivation (Ratelle et al., 2007). Deci and Ryan (1985a, 1985b, 2008b) postulated SDT as an empirically based macro theory of human motivation, development, and wellness, which is organized around three sets of motivational processes (i.e., intrinsic, extrinsic, and amotivational), and how they relate to the concept of self-determination. 'Extrinsic motivation' refers to performing an activity to achieve some distinct outcome, whereas 'intrinsic motivation' refers to doing an activity for an inherent satisfaction (Ryan & Deci, 2000).

Amotivation represents a lack of intention and motivation, in contrast to both autonomous motivation (i.e., intrinsic and extrinsic motivation in which people have identified with and ideally fused an activity's value into their sense of self) and controlled motivation (i.e., external regulation such as reward or punishment, and introjected regulation such as avoidance of shame and contingent self-esteem) that energize and direct behavior (Deci & Ryan, 2008b).

In a sub theory of SDT, the organismic integration theory (OIT) proposed by Deci and Ryan (1985a) depicts the taxonomy of motivational types arranged from left to right on the self-determination continuum, indicating the degree to which the motivations derive from the self (i.e., are self-determined). Starting from the far left of the continuum is amotivation, followed by five classifications of motivated behavior: external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic regulation on the far right. Figure 1 illustrates the OIT taxonomy that reflects amotivation, which represents nonself-determined behavior, non-regulatory style, impersonal perceived locus of causality, and regulatory processes comprising nonintentional, nonvaluing, incompetence, and lack of control (Ryan & Deci, 2000).

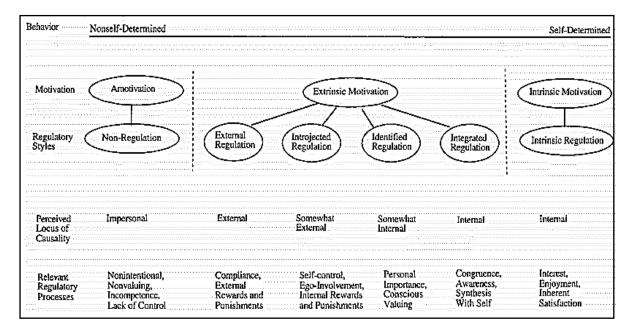


Figure 1: The Self-Determination Continuum

Source: Adapted from "Self-Determination Theory and The Facilitation of Intrinsic Motivation, Social Development, And Well-Being," By R. M. Ryan and E. L. Deci, 2000, American Psychologist, 55(1), 68-78.

Academic Amotivation

Amotivation, or an absence of motivation, represents the category of behaviors that are either executed for unknown rationales or not executed at all (Legault et al., 2006). As defined by Deci and Ryan (1985a, 2002), amotivation is "a state in which individuals cannot perceive a relationship between their behavior and that behavior's subsequent outcome" (Legault et al., 2006, p.568). Being amotivated, they cannot predict the consequences of their behavior. They also fail to perceive the motives behind the behavior, presumably causing them to feel disintegrated or detached from their behavior, and thus limiting their own effort or energy to execute these actions (Legault et al., 2006). The amotivated individuals' behavior is personally

taken as beyond their control, and such a state is on a par with that of learned helplessness (Legault et al., 2006; Abramson, Seligman, & Teasdale, 1978).

Inspired by the four-dimensional environmental amotivation (Pelletier et al., 1999), Legault et al. (2006) conceptualized the weakening process of academic inertia as a taxonomy of academic amotivation that included four types of motivational deficits: (i) lack of belief in their ability, (ii) lack of belief in their effort capacity, (iii) unappealing characteristics of the academic task, and (iv) lack of value placed on the task, which contributed to the development of the 16-item Academic Amotivation Inventory (AAI; Legault et al., 2006; Green-Demers et al., 2008). AAI was applied to school children and found to have strong correlations with academic self-esteem, lack of academic interest, academic anxiety, and indifference regarding academic achievement (Weiser & Garibaldi, 2015).

Vansteenkiste et al. (2009) performed a series of cluster analyses to examine high school and college students' motivational profiles using their autonomous and controlled motivation. The analyses revealed four motivational profiles: a good quality motivation group (i.e., high autonomous, low controlled); a poor-quality motivation group (i.e., low autonomous, high controlled); a low quantity motivation group (i.e., low autonomous, low controlled); and a high quantity motivation group (i.e., high autonomous, high controlled). The good quality motivation group recorded the most optimal learning pattern and obtained the highest score on perceived need-supportive teaching. Vansteenkiste et al. (2009) also suggested the inclusion of amotivation group would match a lack of autonomous and controlled motivation with a greater amount of amotivation for reasons being that a high score on amotivation might characterize the poor-quality motivation group.

Moreover, it was proven by Amrai et al. (2011) that academic motivation correlates positively and significantly with academic achievement. Concerning the influence of motivation for academic achievement on students' success, interest was shown among psychologists to examine the effective factors in motivation for academic achievement in the past decades (Amrai et al., 2011). Some students might have more dominant motives; some students might find different motives more important; whereas others might combine motives in a relatively unique way to meet external demands and find learning enjoyable at the same time (Vansteenkiste et al., 2009). The coordination and interaction between different components of motivation (i.e., interest in task, inclination to effort, competitiveness, social power, affiliation, social concern, praise, and token) were said to be playing a crucial role in students' academic achievement for acquiring the ability to cooperate with others rather than having only competitive motivations (Amrai et al., 2011). In other words, a high level of academic amotivation due to lack of motives or interacting motivational components might be associated with poor academic achievement.

Solution-Focused Brief Therapy (SFBT)

Since the development of solution-focused brief therapy (SFBT) by Steve de Shazer (1985) and Insoo Kim Berg in the 1980s, it had gradually emerged as a common, accepted, and non-threatening treatment alternative for many mental health professionals (MacDonald, 2011; Kelly et al., 2008). Ten years from a review by Kim and Franklin (2009), the application of SFBT with students and in school settings has grown and was applied to many behavioral and academic problems. By reviewing the most rigorous outcome studies on SFBT conducted in

schools, Kim and Franklin's (2009) review supported that SFBT had proven its promising and beneficial approach in working with at-risk students in a school setting, especially in helping students lessen the intensity of negative feelings, other than managing and externalizing their behavioral problems.

Research on SFBT in school settings demonstrated promising outcomes in increasing selfesteem, positive attitudes, positive feelings about oneself, goal attainment, appropriate emotions coping, positive academic and behavioral outcomes, as well as decreasing or alleviating concerns and the intensity of undesired feelings among students in school settings (Franklin et al., 2008). The role of hope and expectancy in SFBT which was tailored to help clients develop solutions that strengthen their expectancy of change and hope for a positive outcome, directed the clients from a problem-saturated and pessimistic outlook on a current situation to a more future-focused and optimistic perspective infused with anticipation of change and hope for the future (Reiter, 2010).

SFBT has demonstrated to be beneficial in school settings with its extensive use of powerful techniques, including the MQ (Franklin et al., 2008). The MQ was developed by Insoo Kirn Berg and has emerged as a foundational SFBT intervention, tool, and technique (De Jong & Berg, 2002; Stith et al., 2012). Despite often being used to help younger children develop their goals, MQ has been discovered to work well with most students who were unable to formulate well-defined, realistic, and achievable goals (Sklare, 2005). Some students can be redirected from problems to solutions after describing the concrete, doable behaviors in order to make their goals a reality (Sklare, 2005). As a result, changes in behavior lead to changes in beliefs, which then change the students' feelings after envisioning the ripple effects of their efforts (Sklare, 2005).

The MQ is a sound SFBT tool in helping clients describe small and realistic actions that are executable as soon as the next day (Corey, 2013; Dolan, 2017). As an example, the suggested script for the MQ was as follows: "Suppose tonight while you are asleep, a miracle happens, and the problem no longer exists. You don't know immediately that it has happened because you were asleep. When you wake up, what is the first thing you will notice that will let you know that there has been a miracle?" (Department for Education and Skills, 2005, p.13). The more details elicited through the MQ, the more likely for the client to learn from their answers for solutions (Atkinson & Amesu, 2007).

School-Based Interventions using Miracle Question

Phipps (2019) reported how MQ works to co-construct a secondary school student's preferred future. The MQ technique was applied at a session between a counselor and the client. The process involved different constructive patterns of language. Phipps (2019) proposed a three-part process model for asking the MQ: co-construction (setting the scene), de-construction (the MQ), and co-reconstruction (building a preferred future). The co-construction process started with a permission-seeking statement "Let me ask you a / my question" (Phipps, 2019, p.96) to encourage the client to use imagination and create a hypothetical situation to engage the client collaboratively. As the co-narrator, the client's sharing contributed to the counselor's storytelling until the "miracle" took place. The ending of co-construction was followed by the beginning of de-construction, whereby the problem-removing "miracle" had taken place when the client wakes up in the morning. It allowed the client to experience a problem-free life with changes and solutions that made life different. A deconstructive but brief miracle event

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switched a problem talk to solution talk so that life can be co-reconstructed. The client was readily engaged in co-reconstructing their preferred future by looking into alternatives and new perspectives because the MQ had acted as a change agent process that led to the client's role shifting from the co-narrator to the primary narrator of their post-miracle life story (preferred future).

Ng (2019) explored the practical use and effects of MQ on a female secondary school student struggling with academic amotivation. By implementing MQ as the primary counseling intervention, the student client was assisted in planning the desired future despite the lack of belief in her ability and the seemingly unchangeable circumstances pre-intervention. The MQ produced effects by reducing the client's reluctance towards studying and by diminishing her academic amotivation. The thought-provoking MQ session had enabled the student to overcome self-imposed limitations and strengthen her self-belief in dealing with the present academic issues, as well as setting short-term and long-term life goals (Ng, 2019). By describing the details and working on the "miracles" (solutions) after picturing the future self with the absence of current problems, the client developed specific plans for changes that she wanted to make real.

Discussion

This study unveiled the implications of MQ in school-based interventions for academic amotivation. When a student lacks academic motivation, finding alternatives might be a better solution than punishments. Specifically, practitioners of the MQ, such as school counselors, can implement MQ on students who are dealing with academic amotivation.

In addition, school counselors are recommended to organize specialized courses for teachers to learn and apply MQ to empower their students. The positive outcomes that emerge from the specialized courses can be extended by encouraging teachers to become active agents of change in a performance-oriented education system.

This study also presented the application of MQ to facilitate adolescents with academic amotivation issues, and also showcased its potential to stand alone as a primary technique in school counseling and teaching practice. More qualitative research on the MQ is recommended to shed more light on the effectiveness of school-based interventions for practitioners in assisting adolescents with academic amotivation better.

Conclusion

This study discussed the implementation of MQ in facilitating adolescents with academic amotivation. MQ is a sound SFBT technique that can help reduce adolescents' academic amotivation. Hence, school practitioners can apply the three-part process model and practical intervention of MQ on adolescent students. The findings highlighted the potentials of MQ to stand alone as a primary technique in school counseling and teaching practices.

References

- Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology*, 87(1), 49-74. https://doi: 10.1037/0021-843X.87.1.49
- Alivernini, F., & Lucidi, F. (2011). Relationship between social context, self-efficacy, motivation, academic achievement, and intention to drop out of high school: A

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longitudinal study. *The Journal of Educational Research*, 104(4), 241-252. https://doi: 10.1080/00220671003728062

- Amrai, K., Motlagh, S. E., Zalani, H. A., & Parhon, H. (2011). The relationship between academic motivation and academic achievement students. *Procedia-Social and Behavioral Sciences*, 15, 399-402. https://doi: 10.1016/j.sbspro.2011.03.111
- Archambault, I., Janosz, M., Morizot, J., & Pagani, L. (2009). Adolescent behavioral, affective, and cognitive engagement in school: Relationship to dropout. *Journal of School Health*, 79(9), 408-415. https://doi: 10.1111/j.1746-1561.2009.00428.x
- Atkinson, C., & Amesu, M. (2007). Using solution-focused approaches in motivational interviewing with young people. *Pastoral Care in Education*, 25(2), 31-37. https://doi: 10.1111/j.1468-0122.2007.00405.x
- Cheon, S. H., & Reeve, J. (2015). A classroom-based intervention to help teachers decrease students' amotivation. *Contemporary Educational Psychology*, 40, 99-111. https://doi: 10.1016/j.cedpsych.2014.06.004
- Corey, G. (2013). *Theory and practice of counseling and psychotherapy* (9th ed.). Belmont, CA: Brooks/Cole, Cengage Learning.
- De Jong, P., & Berg, I. K. (2002). *Interviewing for solutions* (2nd ed). Pacific Grove, CA: Brooks/Cole.
- de Shazer, S. (1985). Keys to Solutions in Brief Therapy. New York, NY: W.W. Norton & Co.
- Deci, E. L., & Ryan, R. M. (1985a). Intrinsic motivation and self-determination in human behavior. New York, NY: Plenum Press.
- Deci, E. L., & Ryan, R. M. (1985b). The general causality orientations scale: Selfdetermination in personality. *Journal of Research in Personality*, 19(2), 109-134. https://doi: 10.1016/0092-6566(85)90023-6
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to the self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska Symposium on Motivation: Vol. 38. Perspectives on Motivation* (pp. 237–288). Lincoln: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227-268. https://doi: 10.1207/S15327965PLI1104_01
- Deci, E. L., & Ryan, R. M. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of selfdetermination research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- Deci, E. L., & Ryan, R. M. (2008a). Facilitating optimal motivation and psychological wellbeing across life's domains. *Canadian Psychology/Psychologie Canadienne*, 49(1), 14-23. https://doi : 10.1037/0708-5591.49.1.14
- Deci, E. L., & Ryan, R. M. (2008b). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182-185. https://doi: 10.1037/a0012801
- Department for Education and Skills. (2005). *Focusing on solutions: A positive approach to improving behaviour.* Retrieved from http://dera.ioe.ac.uk/2382/1/pri_ba_cpd_focus_sol173305.pdf
- Dolan, Y. (2017). *What is solution-focused therapy?* [Blog post]. Retrieved from Institute for Solution-Focused Therapy https://solutionfocused.net/what-is-solution-focused-therapy/
- Franklin, C., Moore, K., & Hopson, L. (2008). Effectiveness of solution-focused brief therapy in a school setting. *Children & Schools, 30*(1), 15-26. https://doi: 10.1093/cs/30.1.15

Copyright © GLOBAL ACADEMIC EXCELLENCE (M) SDN BHD - All rights reserved

- Green-Demers, I., Legault, L., Pelletier, D., & Pelletier, L. G. (2008). Factorial invariance of the Academic Amotivation Inventory (AAI) across gender and grade in a sample of Canadian high school students. *Educational and Psychological Measurement*, 68(5), 862-880. https://doi: 10.1177/0013164407313368
- Janosz, M., Archambault, I., Morizot, J., & Pagani, L. S. (2008). School engagement trajectories and their differential predictive relations to dropout. *Journal of Social Issues*, 64(1), 21-40. https://doi: 10.1111/j.1540-4560.2008.00546.x
- Kelly, M. S., Kim, J. S., & Franklin, C. (2008). Solution Focused Brief Therapy in schools: A 360-degree view of research and practice. New York, NY: Oxford University Press.
- Kim, J. S., & Franklin, C. (2009). Solution-focused brief therapy in schools: A review of the outcome literature. *Children and Youth Services Review*, 31(4), 464-470. https://doi: 10.1016/j.childyouth.2008.10.002
- Legault, L., Green-Demers, I., & Pelletier, L. (2006). Why do high school students lack motivation in the classroom? Toward an understanding of academic amotivation and the role of social support. *Journal of Educational Psychology*, *98*(3), 567-582. https://doi: 10.1037/0022-0663.98.3.567
- Macdonald, A. (2011). Solution-focused therapy: Theory, research & practice. Thousand Oaks, CA: SAGE.
- Ministry of Education Malaysia. (1998). Panduan tentang umur masuk sekolah rendah dan sekolah menengah serta menduduki peperiksaan bagi sekolah kerajaan, sekolah bantuan kerajaan dan sekolah swasta [Guide about entry age of primary and secondary schools and examination for government schools, government assisted schools and private schools]. Retrieved May 25, 2017 from http://www.moe.gov.my/images/pekeliling/2008/circularfile_file_000170.pdf
- Ng, L. V. (2019). Application of The Miracle Question on an Adolescent with Academic Amotivation. In Abd Halim Mohd Hussin, Rusnani Abdul Kadir, Noor Syamilah Zakaria, Maizatul Mardiana Harun, Neerushah Subarimaniam, Asmah Ismail, & Othman Jailani (Eds.), *Prosiding Konvensyen Kaunseling Kebangsaan Kali Ke 21: Pendayaupayaan Kendiri Melalui Kaunseling* (pp.567-582). PERKAMA International.
- Pelletier, L. G., Dion, S., Tuson, K., & Green-Demers, I. (1999). Why do people fail to adopt environmental protective behaviors? Toward a taxonomy of environmental amotivation. *Journal of Applied Social Psychology*, 29(12), 2481-2504. https://doi: 10.1111/j.1559-1816.1999.tb00122.x
- Phipps, D. (2019). The miracle of the miracle question: How a novice counsellor uses the solution-focused miracle question with secondary school students [Master's Thesis, University of Canterbury]. University of Canterbury.
- Ratelle, C. F., Guay, F., Vallerand, R. J., Larose, S., & Senécal, C. (2007). Autonomous, controlled, and amotivated types of academic motivation: A person-oriented analysis. *Journal of Educational Psychology*, 99(4), 734-746. https://doi: 10.1037/0022-0663.99.4.734
- Reiter, M. D. (2010). Hope and expectancy in solution-focused brief therapy. *Journal of Family Psychotherapy*, *21*(2), 132-148. https://doi: 10.1080/08975353.2010.483653
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. https://doi: 10.1037//0003-066X.55.1.68
- Santrock, J. W. (2013). Life-span development (14th ed.). New York, NY: McGraw-Hill.

- Scheel, M. J., Madabhushi, S., & Backhaus, A. (2009). The academic motivation of at-risk students in a counseling prevention program. *The Counseling Psychologist*, *37*(8), 1147-1178. https://doi: 10.1177/0011000009338495
- Sklare, G. B. (2005). Brief counseling that works: A solution-focused approach for school counselors and administrators (2nd ed.). Thousand Oaks, CA: Corwin Press.
- Sokol, J. T. (2009). Identity development throughout the lifetime: An examination of Eriksonian theory. *Graduate Journal of Counseling Psychology*, 1(2), 1-12. Retrieved from

http://epublications.marquette.edu/cgi/viewcontent.cgi?article=1030&context=gjcp

- Squier, K. L., Nailor, P., & Carey, J. C. (2014). Achieving excellence in school counseling through motivation, self-direction, self-knowledge and relationships. Thousand Oaks, CA: Corwin Press.
- Stith, S. M., Miller, M. S., Boyle, J., Swinton, J., Ratcliffe, G., & McCollum, E. (2012). Making a difference in making miracles: Common roadblocks to miracle question effectiveness. *Journal of Marital and Family Therapy*, 38(2), 380-393. (Accession No. 22512299)
- StudyMalaysia. (2015, March 16). A glance at the Malaysian education system. Retrieved May 25, 2017 from https://www.studymalaysia.com/education/higher-education-in-malaysia/a-glance-at-the-malaysian-education-system
- Tella, A. (2007). The impact of motivation on student's academic achievement and learning outcomes in mathematics among secondary school students in Nigeria. *Eurasia Journal* of Mathematics, Science & Technology Education, 3(2), 149-156. https://doi: 10.12973/eurasia.2007.00051a
- Vansteenkiste, M., Sierens, E., Soenens, B., Luyckx, K., & Lens, W. (2009). Motivational profiles from a self-determination perspective: The quality of motivation matters. *Journal of Educational Psychology*, 101(3), 671-688. https://doi: 10.1037/a0015083
- Weiser, M., & Garibaldi, G. (2015). Quantifying motivational deficits and apathy: A review of the literature. *European Neuropsychopharmacology*, 25(8), 1060-1081. https://doi : 10.1016/j.euroneuro.2014.08.018