

Quality of life and motivation to learn: A study of medical students

Marcus Henning

University of Auckland

Christian Krägeloh

Auckland University of Technology

Susan Hawken, Yipin Zhao and Iain Doherty

University of Auckland

There is growing literature in the area of medical students' quality of life. As far as we know, no qualitative studies have investigated the links between students' quality of life issues and their motivation to learn. The key question that drove the present study was: Is there a correlation between students' quality of life and their motivation to learn? Accordingly, the purpose of this study was to explore links between quality of life and motivation to learn. Data was gathered from medical students studying in years four ($n = 6$) and five ($n = 13$). Employing two focus groups a small group diagnostic process was used to ascertain levels of consensus around certain important areas. Student commentaries revealed some interesting and thought provoking insights. The year four students uniformly (100% agreement) experienced sleep problems and felt anxious and uncertain in the clinical setting. The year five students' consistently (100% agreement) cited problems associated with pain, injury and sleep deprivation. Moreover, they regularly felt that clinicians would perceive them as 'weak' if they took time off. These findings have pastoral and academic implications for community and university management, educators, student service personnel, and students.

Introduction

There is considerable evidence to suggest that to effectively function as students, caregivers and professionals, medical students need to maintain functional levels of quality of life (see Eckleberry-Hunt, Lick, Boura, & Hunt, 2009; Haivas & Villanueva, 2006). In addition, medical students need to have a sense of being motivated to learn if they are to successfully complete their intense time of study and if they are to continue with their studies in their professional lives as doctors (McNeil, Hughes, Toohey, & Downton, 2006). As such, medical students need to ensure a functional level of quality of life if they are to maintain their motivation to learn throughout their professional life (Collins, 2009).

The Faculty of Medical and Health Sciences at the University of Auckland has a Bachelor of Medicine and Bachelor of Surgery (MBChB) programme, which has three phases (Faculty of Medical and Health Sciences: University of Auckland, 2009). In the first phase, years one to three, students focus on studying the basic medical and health sciences in addition to concepts related to professionalism and clinical practice. After that, students enter phase two, consisting of years four to five, where they concentrate on learning within the actual clinical environment. In year four students rotate

primarily around the Auckland region gaining clinical experience whilst observing and learning within hospitals and practices. In year five students are encouraged to develop clinical competencies in non-mainstream clinical environments. Finally, in year six students complete further clinical training and are encouraged to do some clinical training overseas. The degree of Bachelor of Medicine and Bachelor of Surgery (MBChB) is awarded after successful completion of six years of medical training.

The following paper focuses on the year four and five students, at the University of Auckland, New Zealand, who are consolidating their clinical learning. This period of medical training opens up challenges such as studying away from home, meeting high parental expectations, coping with a complex curriculum, completing degree requirements, and studying for tests or exams (Sreeramareddy Shankar, Binu, Mukhopadhyay, Ray & Menezes, 2007). It has also been documented that students experience depression, lack of sleep, disengagement, exhaustion, worries about the future, and financial concerns (Dahlin & Runeson, 2007; Estabrook, 2008; Haivas & Villanueva, 2006; Tosevski, Milovancevic, & Gajic, 2010). When entering the clinical environs students may become more prone to burnout and compassion fatigue (Dyrbye et al., 2006; Kearney, Weininger, Vachon, Harrison, & Mount, 2009). In an early paper, Rosenberg (1971) alerted medical educationalists to the problem of a double bind, whereby students are overwhelmed by the intensity and complexity of medical study and thus need to study hard to cope with the demands related to it, yet in doing so they are often sleep deprived and at the edge of burnout. Hence in order to survive, medical students put themselves at risk of incurring serious anxiety-related problems or in fact developing unwholesome personalities (Kutcher, 1984).

Conversely, the value of positive interaction in relation to learning from clinicians and patients will likely increase students' sense of accomplishment and their quality of life (Williams, Ramani, Fraser, & Orlander, 2008). For example, the witnessing of childbirth can make an indelible and rewarding imprint on students (McLean, 2004). In addition, developing a collaborative peer group (Buddeberg-Fischer & Herta, 2006; Santucci, Lingler, Schmidt, Nolan, Thatcher & Polk, 2008), providing appropriate clinical feedback and working with clinician role-models can impact positive professional attitudes, skills, and characteristics, thereby assisting students in their developmental process as they become doctors (Branch & Paranjape, 2002; Dornan, Boshuizen, King, & Scherpbier, 2007; Hill, 2007; Kutcher, 1984; Lin, Shiah, Chang, Lai, Wang & Chou, 2004; Wood, 2000). Implementation of explicit programmes to develop self-care practices for medical students are also deemed to be important as they have a positive impact on quality of life (Estabrook, 2008; Hassed, Lisle, Sullivan, & Pier, 2009).

An investigation of the impact of quality of life and motivation to learn for medical students will likely be useful to the body of knowledge that is beginning to appear relating to all university students (Johnson, Johnson, & Smith, 2007; Salanova & Llorens, 2008; Sirgy, Grzeskowiak, & Rahtz, 2007). Conversely, the body of knowledge from theoretical models of education stemming from other disciplines can inform the study of medical students (Johnson et al., 2007; Salanova & Llorens, 2008; Sirgy et al., 2007). For example, Johnson et al. (2007) discussed the notion of social

interdependence as a form of explanation surrounding the inculcation of negative versus positive learning environments. According to Johnson et al. (2007), collaborative learning processes tend to create positive interdependence whereby goals are achieved through a mutual desire to help one another. This environment for learning leads to greater individual accountability, promotes interaction and the use of constructive social skills sets, and enhances group processing. In contrast, an intensely competitive environment will likely produce negative interdependence or a state of inertia.

With respect to measuring quality of life and motivation to learn, numerous self-report measures can be identified in the literature (Baker & Siryk, 1989; Hawthorne et al., 2006; Insinga & Fryback, 2002; Pintrich, Smith, Garcia, & McKeachie, 1991; Saxena, Carlson, Billington, & Orley, 2001; Sirgy et al., 2007; Vallerand, Pelletier, Blais, Briere, Senecal & Vallier, 1993; Weinstein & Palmer, 2002). In recent times, the use of focus groups has been a further method of exploring medical students' quality of life (Barbour, 2005; Perron et al., 2009). For example, an in depth focus group conducted on resident doctors in the US found that sleep loss and fatigue adversely affected their quality of life at both personal and professional levels (Papp et al., 2004).

The present authors thus felt that a focus group process would be useful in obtaining qualitative information from the medical students as it would allow, firstly, an opportunity for students to discuss relevant issues related to their educational experiences thereby inculcating a learner-driven approach, and secondly, to uncover contextual, personal and interpersonal elements that are not easily elicited using self-report questionnaires (Barbour, 2005; Gallagher, Waterman, Ebers, Fraser, & Levinson, 2003). Accordingly, the purpose of this study was to employ focus groups to explore links between quality of life and motivation to learn. The key question that drove the present study was: Is there a connection between students' quality of life and their motivation to learn?

Method

Participants

University of Auckland medical students in years four and five were invited to discuss their quality of life and motivation to learn. Two focus groups comprising of year four (6 students: 5 male, 1 female) and year five students (13 students: 7 female, 6 male) were organised. Total enrolments for 2009 were 183 students in year four and 160 in year five.

Procedure

First, all year four and five students were notified through their student internet accounts of an opportunity to participate in a focus group. Additionally, snowball sampling was incorporated utilising class representatives. These representatives linked the researchers with other information-rich participants until a suitable sample (of six or more) was achieved (Patton, 1990).

To structure the focus groups, the present study considered the World Health Organisation quality of life factors used in their abbreviated questionnaire (Murphy, Herrman, Hawthorne, Pinzone, & Evert, 2000). These factors include the physical, psychological, social relationships and environmental quality of life. In addition, the motivation-to-learn sub-scales relating to self-efficacy, intrinsic value, test anxiety, cognitive strategy use, and self-regulation (Pintrich & De Groot, 1990) were also used as a guide to focus the discussions of the students. These frames of reference were chosen as they have credibility and extensive exposure in the literature (Billington, Landon, Krägeloh, & Shepherd, 2010; Pintrich, 2004).

The focus groups were arranged for times when students were on campus and thus able to attend. Students were initially asked to work individually to write about their experiences in relation to their quality of life and motivation to learn. More specifically, students were asked to write down their experiences related to their physical, psychological, social and environmental quality of life and how these experiences interacted with their motivation to learn in terms of their beliefs about their ability to study, their level of interest in their study, their level of anxiety, the strategies they employed to learn, remember, and understand the material, and the strategies they used for planning, self-monitoring, and self-control. The rationale was to start at an individual level first before engaging them in group discussion so that they could access their individual experiences without interruption. However, students were also encouraged to reflect on and write about their experiences outside this remit.

Students were then engaged in a group discussion facilitated by the primary researcher, although the resulting discussions and decisions were driven by the students themselves. The responses from the focus groups were collated by an independent research assistant and compared to the notes of an additional research assistant who was present at the time of the focus groups. The themes were thus generated by group consensus, as each theme was taken back to the group, and to gain an idea of the level of agreement amongst participants, each group was asked, “Do you all agree with this point?”, or “How many of you agree with this point?” The methodological process used to structure the group meeting was adapted from the idea of Small Group Instructional Diagnosis, whereby the majority of the group's members must come to some sense of agreement about a comment before it is recorded (Coffman, 1991).

Results

The following results are summaries taken from an independent research assistant's notes of the general discussions.

The year four students' findings (see Table 1) indicate that the students who participated in this focus group uniformly experienced sleep problems, and when in the clinical setting felt anxious, uncertain, and had problems with receiving negative or inconsistent feedback about performance which had an adverse psychological impact. They consistently agreed that their social relationships were pragmatically driven and focussed on developing professional networks. The notion of developing personal relationships outside of medicine was not given a high priority. Most (67%) of the students indicated transport problems and difficulties with using the library facilities.

Table 1: Summarised version of the year four students' responses (n=6)

QOL themes	Issues raised	Level of agreement with students
Physical	Sleep deprivation	100%
Psychological	Anxiety-provoking hospital environment Uncertainty as to what is expected Negative or inconsistent feedback about performance	100%
Social relationships	Eats into study time and takes time out of study Opportunity for group study. Professional relationships are a source of motivation – e.g. role models.	100%
Environmental	Public transport/worries about transport stresses you out/makes you tired and impacts on access to clinical attachments Library woes – physical layout and opening hours	67%

Table 2: Summarised version of the year five students' responses (n=13)

QOL themes	Issues raised	Level of agreement with students
Physical	Pain/injury and sleep deprivation lowers concentration and consolidation of information Perfectionism - torn by the pressure to be perfect and the repercussions of taking time off – perceived as being “weak” and having to make up time (e.g. complete hospital hours during holidays)	100%
Psychological	Issues of guilt and no energy to study at night. Acknowledgement (by hospital staff) made students feel like they had a purpose Good events (e.g. delivering a baby) can take you through/put you on a high	61%
Social relationships	Social isolation –less free time and money as other students (e.g. Arts) Social relationships are very important – particularly if you had a bad day/needed someone to vent to	Not determined
Environmental	Important to have a quiet place to study Transport issues - distance of home from uni/hospital, necessity of getting a part-time job to support studies/living Limited library access/weekend hours, lack of computers, lack of parking	61%

The year five students' comments (see Table 2) suggest that this larger group had more to say about quality of life and motivation to learn issues. All students had encountered, or observed, personal barriers such as pain, injury and sleep deprivation that reduced concentration and learning efficiency. Moreover, they felt that clinicians would perceive them as 'weak' if they took time off, and therefore they felt they had to be seen to be aiming for perfection.

Many students (61%) were dismayed as they experienced difficulties studying at night due to low levels of energy but they felt they were not studying enough. Nonetheless, 61% students also expressed positive moments that energised them in their learning. These included clinical experiences (e.g. delivering a baby), positive acknowledgements from other clinical staff when on clinical placements, and developing nurturing social networks. Lastly, the majority of students (61%) acknowledged that there were problems with transport, parking, and access to computers and libraries.

The students were unable to come to a consensus about the importance of social relationships. One student in the group felt socially isolated and that they did not have the same access to resources as other non-medical students, while some students saw the value of social networking especially if things were getting difficult, which is likely to be an individual rather than a group issue. Thus, students may, in general, be successful in forming social networks.

Discussion

The present study has uncovered some interesting views from medical students during their clinical years and these views are likely to be informative for all university stakeholders, as these findings will create discussion about the issues that impact on these students' quality of life and their motivation to learn. The subsequent discussion is organised according to relevance to these various stakeholders, namely community and university management, educators, student service personnel, and students.

Community and university management

The views of the medical students in this study indicate a high level of agreement on some environmental issues that could be addressed at management level. More specifically, there are opportunities for reviewing structural aspects of learning, for example, library access (opening times), computer use, transport and parking. Very few studies have investigated these barriers to student learning. One predominantly descriptive study (Al Sultan, Parashar, Wahass, & Al Soweilem, 2002) found that 56% of interns, who had completed a one-year compulsory rotating internship, felt that transport issues were stressful for them. Moreover, 74% of interns felt they had difficulties with library access. Clearly, more research in these areas is recommended as both fourth and fifth year students in the present study felt that their learning and quality of life were adversely affected when travelling to clinical attachments as this caused tiredness and had financial implications. In addition, accessing the library and computer facilities at night was a problem as these services were closed. The access

issue was further exacerbated when students were off campus at their clinical attachments.

Educators

Educators are important stakeholders and they need to understand that their behaviours can impact both positively and negatively on the student learning experience. The year four students in this study were often anxious, uncertain, and received negative or inconsistent feedback. The year five students had more deep seated issues related to feeling weak if they took time off and the need to study hard even if they felt fatigued. To deal with these issues, some studies (Tosevski et al., 2010) suggest students be encouraged to monitor and journal any emotionally charged incidents and consequent responses. This enables students to learn from stress-provoking events and provides them with insights into strategies that can enable them to survive in the world of medical practice, thus reducing the risk of psychopathologies, such as burnout, depression, substance abuse, and suicide. Further to this, students in these focus groups clearly indicated the motivational value of experiencing rewarding moments like watching a mother giving birth, which is a clear example of a teachable moment, which provides them with positive insights into actual practice (McLean, 2004).

The importance of role models and peer support groups has been acknowledged for a long time (Kutcher, 1984). Moreover, the advantages of developing a collaborative environment instilling a sense of positive interdependence will likely develop a work culture built around openness and philanthropy, creating more effective actions, and promoting more teamwork skills (Johnson et al., 2007), which are also needed for doctors to succeed as professionals (Weller, Thwaites, Bhoopatkar, & Hazell, 2010). Problems associated with doctors' behaviours towards students were highlighted by the participants in this study. In particular, the year four group who were entering the clinical training voiced concerns around feelings of uncertainty, and around the fact that they received negative or inconsistent feedback about their performance, which promotes a sense of distrust and negative interdependence or state of inertia (Johnson et al., 2007). This is unfortunately not a unique story (Dornan et al., 2007), and in a learning environment that promotes uncertainty and mistrust, students can feel disempowered and may feel unable to approach clinical teachers for effective and timely debriefing. There is, thus, a strong case for more formally embedded self-care strategies around the clinical teaching workplace which then continues throughout the curriculum. For example, Hassed et al. (2009) have examined the effectiveness of programmes focussing on health enhancement, mindfulness, and lifestyle and showed that such programmes do have a positive effect on students' quality of life perceptions. There may also be a need for scaffolding students especially in their early clinical exposures to ensure they are not alienated from exemplary learning experiences and allowed to learn in line with their level of knowledge and skills.

Lastly, to create an inclusive learning environment it is important to recognise the value of disseminating effective and constructive feedback to students. Branch and Paranjape (2002) suggest that feedback can have three general categories, namely brief, formal and major. Brief focuses on the concrete aspects of clinical education,

while formal feedback addresses both the process and content of the clinical learning experience. The student knows that feedback will be given and will have time to reflect on the learning experience. Finally, major feedback addresses levels of competency related to inadequate performance and is thus a patient safety issue. It is commonly thought, by medical educators, that feedback needs to be constructive, specific, timely and measurable and change seen to be manageable and achievable (Branch & Paranjape, 2002; Hill, 2007; Wood, 2000).

Student services and students

In the present study, the students highlighted problems associated with sleep deprivation, fatigue, guilt, financial concerns, and perfectionism, which have been documented elsewhere (Dahlin & Runeson, 2007; Haivas & Villanueva, 2006). Medical education appears to perpetuate stress through its intense academic workload, working with patients, and grading systems (Tosevski et al., 2010). It is interesting, that medical students often internalise the medical and case content they are studying, and therefore, may create a disease orientation to the world which can evolve into a sense of helplessness (Tosevski, et al., 2010). To address these concerns, it is important to encourage students to seek support and assistance, and make resources available and accessible (Dahlin & Runeson, 2007). Services can include teaching strategies that address concerns with content memorisation, problem solving, financial planning, and clinical reasoning.

Nonetheless, it is important for these services to be accessible and for those providing the service to be seen to be actively engaging with medical students. This is especially important for medical students with a strong sense of perfectionism who may see help-seeking as a stigma, and thus feel a sense of avoidance in accessing such services (Tosevski et al., 2010). The use of peer support or a mentor system to ensure students understand the forms of education they are facing, or expected to face, are methods that could be embraced by student services (Buddeberg-Fischer & Herta, 2006; Santucci et al., 2008). Such a collaborative approach will likely engender more positive relationships, psychological wellness, and social support, and develop more positive aspects of social interdependence (Johnson et al., 2007), which can then be translated to the work environment.

The responses from the focus groups indicate that students could employ strategies to cultivate and enhance a sense of self-determination so they can develop as autonomous learners (Deci, Vallerand, Pelletier, & Ryan, 1991). Students could engage in self-discovery practices and become familiar with self-care areas through talking amongst themselves, learning from external sources, and consulting with trusted clinical teachers about areas such as resilience and safety issues. Several wellness programmes are being promoted in medical schools, such as physicians educating medical students about health issues incurred by students, relaxation strategies, and coping mechanisms (Estabrook, 2008). Hassed et al. (2009) also offered a voluntary programme that showed significant benefits for those who participated. However, the volunteer bias may also be a confounding factor in such studies and these interventions may miss

some at-risk students engaging in avoidant behaviours. Consequently, more formalised approaches may be necessary.

In addition, students, with assistance of student advisors, need to develop levels of assertion so that clinical teachers can be provided with constructive feedback and, thus, able to develop as teachers. Lin et al. (2004) taught assertiveness skills to medical students in the form of embracing assertive behaviour, asking for clarification and dealing with criticism, expressing ideas of difference and learning key communication skills. In this study, students expressed ideas that could have been beneficial for teachers which in turn would likely benefit students who are beginning their formative years as medical students.

Conclusion

The present study has shown that these medical students are faced with numerous challenges in their educational journey. These quality of life and motivational challenges and issues could quite easily be witnessed by other students in other academic disciplines (Salanova & Llorens, 2008). Despite changes in terms of medical advancements and more sophisticated systems of teaching such as the use of case and problem-based learning systems, becoming a doctor is still a complex and intense process that has a double edge to it. Nonetheless, the students in this study experienced some rewarding moments that keep them motivated as learners. These teachable moments are thus likely to be critical incidences that contribute to students' understanding of what it means to be a doctor. To ensure that medical students gain optimal training to develop as competent professionals, in the wider use of the word, it is important to have insight into the areas of responsibility and to instil effective strategies to minimise the risk of double bind scenarios. With the knowledge and strategies, it is critical to allow students the space to develop as confident learners so that they can develop their self-care skills and become the complete clinician – both knowledgeable and humane.

It is acknowledged that this study sample was not meant as a true representative sample of all year four and five students. As one student said, "You don't expect us to speak for all students? We can only tell you what we think". However, there is also no reason to think that the issues raised by this group do not resonate with many medical students or in fact with other university students. Moreover, using two existing frameworks of quality of life (Murphy et al., 2000) and motivation to learn (Pintrich & De Groot, 1990) to initiate thinking in the medical students could be seen as providing a lens for these students that may have distracted them from other issues. However, it is also important to note that these two frames of reference were considered as starting points to the discussion and students were invited to consider issues outside these frameworks.

As a final note, the qualitative edge of the data has provided rich insights into some of the specific problems likely to be facing medical students in this and other medical schools. A major strength of the study was to allow students to generate their own themes emerging from the focus group discussions and to take note of the levels of

agreement amongst participants, thus allowing an opportunity for a consensual voice to evolve. There is also scope for further research in terms of engaging in longitudinal investigations and unpacking some of the issues raised in this study in more depth. Consequently, further research could use these students' comments when developing or using existing questionnaires. In addition, aspects of the findings could be investigated in more detail, such as the impact of developing professional relationships at the expense of personally nurturing ones. Moreover, the findings of this study may promote further investigations in other educational disciplines, especially those with a professional edge such as engineering, law, accounting and architecture.

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Dr Marcus Henning, corresponding and presenting author, Senior Lecturer, Centre for Medical and Health Sciences Education, University of Auckland, New Zealand.
Email: m.henning@auckland.ac.nz

Dr Christian Krägeloh, Senior Lecturer, Department of Psychology, Auckland University of Technology, New Zealand.
Email: chris.krageloh@aut.ac.nz

Dr Susan Hawken, Senior Lecturer, Department of Psychological Medicine, Faculty of Medical and Health Sciences, University of Auckland, New Zealand.
Email: s.hawken@auckland.ac.nz

Yipin Zhao, Research Assistant, Centre for Medical and Health Sciences Education, University of Auckland, New Zealand.
Email: yzha182@student.monash.edu

Dr Iain Doherty, Senior Lecturer, Learning Technology Unit, University of Auckland, New Zealand.
Email: i.doherty@auckland.ac.nz