

Study orientations of medical students attending the summer school psychiatry program

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Abstract

We recently developed a two-month summer school psychiatry program that combines clinical work and education. For the present study, we assessed the study orientations and their possible associations with individual learning results among the participants. The present sample comprised 15 females and 8 males attending the summer school in 2014. Their general study orientations were measured with the Inventory of General Study Orientations instrument at baseline. The participants also subjectively assessed their knowledge of psychiatry at baseline and follow-up. Deep (mean 4.32) and Practical (mean 3.55) orientations were pronounced. Females were more deeply oriented ($p=0.034$), whereas males were more work-life oriented ($p=0.008$). Anxious orientation was pronounced ($p=0.044$) among those who showed the greatest improvement in psychiatric knowledge. The study orientations of the summer school participants were similar to those of medical students in general, that they strive to profoundly understand the studied subject, yet also emphasize the practical aspects of studies. Anxiously oriented students may particularly benefit from this type of a program.

Similar to several other countries, Finland struggles with a nationwide shortage of psychiatrists (1). There is a need to improve medical students' opportunities to get acquainted with psychiatry and inspire interest therein. Recently, we reported on an innovative summer school program in psychiatry offering a combination of clinical work, tutoring and multifaceted teaching for medical students (2, 3). The experiences were encouraging and, in addition to enjoying the summer school as a learning environment, the participants' subjective knowledge of psychiatry also appeared to markedly improve.

The Finnish medical degree comprises six years of full-time study and, in general, students complete a course in psychiatry during their fourth year of study. Students who have completed four years of study can serve as substitutes within a specialty. Vacation seasons provide a central showcase for different specialties, with students filling in as substitutes for the permanent staff. However, new approaches are needed for psychiatry to be competitive in terms of students' interest and, in this regard, the students' needs should be acknowledged as well.

Study approaches and strategies among students have been extensively explored. The concept of study orientation aims to combine the study approaches, styles, motivations and methods into a larger construct that progresses through learning (4). A study orientation can be, e.g. vocational, or related to the meaning of the studied subject or the achievement associated with the study (5). In previous research, Deep and Systematic orientations have been prominent in medical students, that is, the students strive to profoundly understand the studied subject and often use careful planning to achieve this (6, 7).

The aim of the present study was to assess the study orientations of the medical students participating in the summer school psychiatry program. Furthermore, we aimed to evaluate the possible associations between the various orientations, and subjectively rated learning results. We were interested in finding out if the program attracts students with certain specific study orientations and if the program is especially beneficial for any particular type of students.

Method

The present study is based on the two-month summer school psychiatry program in June-July 2014 within the Satakunta Hospital District. Students were recruited in autumn 2013 and all the available positions were filled. The design of the recruiting process and the program are described elsewhere (2). The program includes the following components: tutoring to guide the medical students in their daily work, weekly teaching sessions including patient case workshops and leisure activities. The participants were paid for their work and the teaching sessions were included in the working hours. The tutors were recruited from the hospital's own staff and they were either specialists or experienced residents. Each tutor had 1 to 5 summer school students to guide. The teaching sessions covered central topics in psychiatry, such as legislation and different mental disorders. Each lecture was followed by a workshop to discuss patient cases.

Participants

The sample (n=23) comprises both substitutes (n=16) and interns (n=7) who participated in the summer school. In Finland, interns are medical students who have generally completed three years of medical studies and cannot yet serve as substitutes. Altogether 65% (n=15) of the participants were female. The average age was 25 years both for females (range 22-43 years) and males (range 23-32 years). Of the substitutes, two had recently graduated, one had completed five years and the rest (n=13) four years of study.

Measures

The participants' general study orientations were measured at the beginning of the program (baseline) using the Inventory of General Study Orientations (IGSO) (5). The instrument comprises 39 statements to be rated on a Likert-type scale from 1 to 5 (1=totally disagree, 5=totally agree). Each statement represents one of the 8 factors that correspond to different study orientations: Deep, Practical, Systematic, Achievement, Social, Work-life, Anxious and Lack of commitment. Deep orientation is defined by an objective to profoundly understand the studied subject, while Practically oriented students emphasize a more down-to-earth approach. Systematic oriented students often carefully plan their studies and utilize schedules, whereas students that are highly Achievement oriented are focused on the achievement associated with the completion of the degree. Socially oriented students value the social aspects of studenthood. Work-life orientation is often associated with a desire to swiftly complete the studies and proceed to work-life, and a high Anxious orientation with constant stress and fear of failure associated with the studies. Additionally, a high Lack of commitment orientation indicates that the studies do not carry much significance for the student. The validity and reliability of the Finnish version of the instrument has been shown to be good (5, 6, 8).

The participants also evaluated their own psychiatric knowledge by completing a questionnaire both at baseline and the end of the program (follow-up). The questionnaire comprises 16 statements concerning the subjective assessment of one's knowledge of different mental disorders, the psychiatric care system and the

legislation governing psychiatric care (Table 1). The students rated the statements on a Likert-type scale from 1 to 5 (1=totally disagree, 5=totally agree; total score ranging from 16 to 80). The baseline score was subtracted from the follow-up score to acquire a scale sum score of change, which was used to assess individual improvement. The sum scores were used to identify the top quartile (n=6, change score of ≥ 19) that had improved the most.

Statistical analyses

The distributions of the variables were skewed and, accordingly, were treated as non-parametric. The psychiatric knowledge variables were characterized using medians and interquartile range (IQR). Mann-Whitney U-test was used for comparisons between males and females, and between the top quartile and the others. For subjectively rated knowledge data, Wilcoxon signed-rank test was applied to analyse the differences in the scores at baseline and follow-up. Cronbach's coefficient alpha scores were used to assess the internal consistency for the IGSO instrument. Statistical analyses were carried out using the IBM SPSS software, Version 21.0.

Table 1. Statements used in the subjective knowledge assessment, and the median (IQR) scores (scale 1-5) at baseline and follow-up for females (n=15) and males (n=8).

Statement	Females			Males		
	Median (IQR)		p ^a	Median (IQR)		p ^a
	Baseline	Follow-up		Baseline	Follow-up	
1. I'm acquainted with the psychiatric health care system.	3.00 (1.00)	4.00 (0.00)	0.005	3.50 (2.00)	4.00 (0.00)	0.066
2. I'm acquainted with the internal collaborators within Satakunta Hospital District.	2.00 (1.00)	4.00 (1.00)	0.001	2.00 (2.00)	4.00 (0.00)	0.011
3. I'm acquainted with the municipal cooperative parties.	2.00 (1.00)	4.00 (1.00)	0.003	2.00 (1.00)	4.00 (1.00)	0.016
4. I'm aware of the internal policies in psychiatry.	3.00 (2.00)	4.00 (0.00)	0.004	3.00 (1.00)	4.00 (0.00)	0.059
5. I know how to interview a psychiatric patient.	4.00 (1.00)	4.00 (1.00)	0.008	4.00 (1.00)	4.00 (1.00)	0.046
6. I'm able to evaluate psychotic symptoms in a patient.	4.00 (1.00)	4.00 (0.00)	0.10	3.00 (1.00)	4.00 (1.00)	0.038
7. I'm able to evaluate suicidality in a patient.	3.00 (1.00)	4.00 (1.00)	0.013	3.50 (1.00)	4.00 (0.00)	0.16
8. I'm able to determine the appropriate placement for a patient.	3.00 (1.00)	4.00 (1.00)	0.013	3.00 (1.00)	4.00 (0.00)	0.015
9. I'm able to utilize different professionals in treating patients.	3.00 (2.00)	4.00 (0.00)	0.007	3.00 (1.00)	4.00 (0.00)	0.024
10. I'm acquainted with the psychiatric legislation.	3.00 (1.00)	4.00 (1.00)	0.011	3.00 (2.00)	4.00 (0.00)	0.023
11. I know how to use coercive means in psychiatry.	2.00 (1.00)	3.00 (2.00)	0.083	2.50 (2.00)	3.00 (2.00)	0.046
12. I know how to use acute medical treatments.	3.00 (2.00)	3.00 (1.00)	0.035	3.00 (2.00)	4.00 (1.00)	0.023
13. I know how to use long-term pharmaceutical treatments in psychiatry.	3.00 (1.00)	4.00 (1.00)	0.004	2.50 (2.00)	4.00 (1.00)	0.038
14. I'm able to make psychiatric diagnoses.	3.00 (1.00)	4.00 (1.00)	0.005	2.00 (2.00)	3.50 (1.00)	0.038
15. I'm able to utilize different measures in patient evaluation.	3.00 (2.00)	4.00 (1.00)	0.003	2.00 (1.00)	3.00 (1.00)	0.054
16. I understand the significance of psychological examination in patient evaluation.	3.00 (2.00)	4.00 (1.00)	0.020	3.00 (1.00)	4.00 (1.00)	0.16

^a Wilcoxon signed-rank test.

Abbreviation: IQR = Interquartile range.

Results

The study orientations of the sample, measured by means of the IGSO instrument, are presented in Table 2. Females were significantly more deeply oriented ($p=0.034$), whereas males were more work-life oriented ($p=0.008$). Overall, Cronbach's coefficient alpha scores showed poor internal consistency for the different factors.

As regards the subjectively rated psychiatric knowledge, the changes were positive and statistically significant for both males and females, with the exception of some particular statements (Table 1). For the whole sample, there was a significant ($p<0.001$) improvement in the overall ratings: the total sum score median (IQR) was 47.00 (9.00) at baseline and 60.00 (6.00) at follow-up. Regarding the change score median values (IQR), no statistical differences were observed between females (13.00 [8.00]) and males (16.50 [10.00] [$p=0.24$]) or substitutes (14.50 [10.00]) and interns (15.00 [12.00] [$p=0.87$]).

The top quartile ($n=6$) comprised three females and three males, and both substitutes ($n=4$) and interns ($n=2$). When comparing the study orientations between the top quartile and the others, a significant difference ($p=0.044$) between the groups was only found for Anxious orientation. The mean values (95% CI) were 3.14 (2.57-3.72) for the top quartile and 2.67 (2.43-2.92) for the others. For all the other orientations, the mean (95% CI) score differences between the groups were non-significant: Deep 4.42 (3.99-4.85) for the most improved group and 4.28 (4.08-4.48) ($p=0.52$) for the others, Practical 3.75 (3.22-4.27) and 3.49 (3.21-3.76) ($p=0.32$), Systematic 2.92 (2.52-3.31) and 2.85 (2.57-3.14) ($p=0.87$), Achievement 1.89 (1.41-2.37) and 1.92 (1.65-2.19) ($p=0.87$), Social 1.89 (1.20-2.58) and 2.16 (1.78-2.53) ($p=0.47$), Work-life 2.92 (2.52-3.31) and 2.85 (2.58-3.12) ($p=0.76$) and Lack of commitment 2.73 (2.23-3.23) and 2.45 (2.26-2.64) ($p=0.20$), respectively.

Table 2. Study orientations of the medical students participating in the summer school psychiatry program, assessed by means of the Inventory of General Study Orientations (IGSO) and presented by gender.

Study orientation	All (n=23)		Females (n=15)		Males (n=8)		p ^a	Cronbach's alpha
	Mean	95% CI	Mean	95% CI	Mean	95% CI		
Deep	4.32	4.15-4.49	4.45	4.22-4.68	4.06	3.91-4.21	0.034	0.76
Practical	3.55	3.33-3.78	3.63	3.39-3.88	3.41	2.86-3.95	0.59	0.44
Systematic	2.87	2.65-3.09	2.87	2.53-3.21	2.88	2.68-3.07	1.00	<0.001
Achievement	1.91	1.70-2.13	1.82	1.54-2.11	2.08	1.73-2.44	0.27	0.36
Social	2.09	1.78-2.40	2.13	1.73-2.53	2.00	1.40-2.60	0.73	0.44
Work-life	2.87	2.66-3.08	2.67	2.47-2.87	3.25	2.86-3.64	0.008	<0.001
Anxious	2.80	2.57-3.02	2.77	2.45-3.09	2.84	2.47-3.21	0.73	0.48
Lack of commitment	2.52	2.34-2.70	2.61	2.38-2.85	2.35	2.05-2.64	0.12	0.59

^a Mann-Whitney U-test, comparison between genders.
Abbreviation: CI = Confidence Interval.

Discussion

In the present study, Deep and Practical orientations were pronounced in both genders, which is in line with the results of previous studies using the IGSO instrument among medical students and university students in general (5-7). The results are also similar to studies conducted with other instruments (9). In our sample, males also showed pronounced Work-life orientation. However, the Lack of commitment orientation was more and Systematic orientation less pronounced in our study when compared with previous studies (6, 7). These findings are somewhat contradictory with the high degree of Deep orientation among the summer school participants. One hypothesis is that the participants are heavily oriented to learning and developing themselves, but their professional goals are still somewhat unclear.

Overall, there was a significant improvement in the subjectively assessed psychiatric knowledge. Among those who showed the greatest improvement, Anxious orientation was significantly higher when compared with the other students. It was also markedly higher when compared with previous findings in student populations (5, 7). High Anxious orientation is characterized by a constant stress, which is often related to a high workload and fear of failure (5). This factor alone could have provoked high scores for Anxious orientation since the summer school was the first job as a physician for the majority of the substitutes, but no such effect was observed. Anxious orientation has also been associated with a tendency to superficial learning (5), but this did not appear to be the case in our sample because the Deep orientation score was high across the sample.

It is plausible that the highly supportive summer school environment, which is capable of accommodating the individual needs of the students, provided much needed support to the anxiously oriented individuals, and thus they were able to better focus on the matters at hand instead of their anxiousness. Although the program did not appear to attract particularly anxiously oriented students, we might say that they may benefit from this type of program. It is noteworthy that the assessment of psychiatric knowledge was subjective. Thus, the results can be interpreted to indicate either that the program actually resulted in significant improvements in the knowledge of anxious students in particular, or that it provided such support that these students grew more confident in their own skills.

One obvious limitation in the present study is the small sample size, which is the likely explanation for the low Cronbach's alpha coefficients for the IGSO scale and furthermore, impedes the generalization of the results. Although the evidence for the feasibility of the English version is still lacking, previous research suggests good reliability and validity for the Finnish version of the IGSO scale. In general, the present results regarding the study orientations of the students were in line with previous studies (5-7).

To conclude, the overall study orientations of the summer school participants were similar to those of medical students in general. The subjectively assessed knowledge of the students with high Anxious orientation showed the greatest improvement and thus, this kind of program may be particularly beneficial for these students. However, studies in larger samples are needed to confirm the present findings.

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