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### Peer influence in clinical workplace learning

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## Chapter 7

### **General discussion**

This thesis, about the use of social comparison in clinical workplace learning, started with a quote illustrating students' tendency to compare themselves with peers. Their everyday discussions about what they did that day and to what consequences are part of the great wealth of experience which promotes and at times discourages learning. Research has already demonstrated how students' learning in clinical practice is influenced by their interactions with patients, residents and staff.<sup>1-6</sup> The findings of the studies presented in this thesis revealed that students' learning is substantially influenced by the comparisons of themselves with their peers.

### **Main findings**

The outcomes of the first questionnaire study in Chapter 2 confirmed the relevance of social comparison for clinical workplace learning. In line with social comparison theory,<sup>7</sup> the students reported comparing themselves with others frequently, usually with peers. As predicted, they showed a preference for upward comparison with peers who were perceived as doing better, rather than for downward comparison with peers doing less well. Their responses to the comparisons in either direction more often stimulated learning than discouraged it. Even though students appeared to differ in their comparison behaviours, these first findings indicated a mainly positive influence of social comparison on student learning in clinical practices.

Evidence of the influence of social comparison on students' estimates of their performance was provided in the experimental study reported in Chapter 3. The findings of this study showed that students' estimates of their performance were affected by the performance level and gender of the comparison peer. This peer influence was considered of relevance to clinical workplace learning because students' beliefs about their abilities to perform are related to Bandura's concept of self-efficacy.<sup>8</sup> The outcomes of this study, therefore, indicated that the characteristics of the peer chosen for comparison will strengthen or diminish a student's self-efficacy which, consequently, will ease or hamper that student's learning.

Students' actual use of social comparison in authentic clinical settings was revealed in the qualitative study presented in Chapter 4. The students compared themselves with peers on their ability to perform clinical tasks and to interact with patients, residents and staff. They also compared themselves

on issues of the self, such as personal behaviours, feelings and attitudes. The most common net effect was reassurance, self-affirmation and motivation to progress. These findings emphasized the vital role of peers in clinical workplace learning in providing benchmarks which helped students appraise their current position, and revealed to them what they had already achieved and could achieve in the near future.

The last questionnaire study, Chapter 5, unravelled the relationship between the use of social comparison and student distress. Relevant differences were found between the comparison behaviours of students expressing low and high levels of distress. The more selective and positive use of social comparison by low-distress students could strengthen their resilience, while the more frequent and less beneficial use of social comparison by high-distress students carries the risk of increased distress. In order to help distressed students cope with stressors in clinical practice, we recommend to take their comparison behaviours into account and help them develop better comparison strategies.

### **Methodological considerations**

The strengths of this thesis are its relevance, its consistent use of an established theory and its methodological rigour. The research presented in this thesis is relevant because it identified and explained the rather neglected role of peers in clinical workplace learning. Four coherent studies of students' use of social comparison revealed the vital influence of peers on their learning. The presented research about students' tendencies to make comparisons with peers and the consequences of them doing so adds to the theoretical understanding of clinical workplace learning and provides opportunities to improve this type of learning, as is recommended in Chapters 4 and 5. Another strength of this thesis is the consistent use of an established social psychological theory. All the studies were rooted in the social comparison literature and all the findings were related to previous social comparison research, which enhanced the reliability of this thesis' outcomes. The use of social comparison theory<sup>7</sup> also broadened the view on clinical workplace learning, as the theory is relatively unknown in the field of medical education. This thesis therefore contributes to the medical education literature, which has been critiqued for its limited use of theory to frame research and for accepting a restricted view on learning.<sup>9,10</sup> A third strength of this thesis is the deliberate use of different methodologies which reflected its methodological rigour. Quantitative research methods

were used in three studies. Two of these studies (Chapters 2 and 5), used a questionnaire design, and one study (Chapter 3), used an experimental design. These studies' analysis techniques ranged from t-tests to analysis of variance and to multivariate analysis of variance. Qualitative research methods were used in the study presented in Chapter 4. This study used the data gathering technique of solicited audio diaries. Constructivist analysis was performed on all the entries in students' diaries using a grounded theory approach.<sup>11</sup> The application of different methodologies, research designs and analysis techniques adds to the reliability of this thesis' research outcomes.

The limitations of this thesis are related to the generalizability of the results and to potential sources of bias. The generalizability of the results is compromised because the participants in all the studies presented were recruited from one medical school, the University Medical Center Groningen in the Netherlands. All the participants, however, were in their clinical period, which means that they were engaged in a great variety of disciplines in different hospitals: the university hospital, one of its eight affiliated teaching hospitals or one of its smaller satellite hospitals. Despite this great variety of clinical settings, the fact that the participants were from one medical school warrants caution in claiming that the results will hold for students in other medical schools and for students outside the Netherlands. Another limitation of the research in this thesis is the use of self-reported data, which carries the risk of bias. In social comparison research, however, the use of self-perceptions is inevitable. Social comparison is defined as the process by which a person thinks about information of one or more others in relation to the self.<sup>12</sup> Such a process is internal, occurring in people's minds, and is immeasurable without using self-reported perceptions. Other sources of potential bias are from the experimental nature of the quantitative study in Chapter 3 in which a written comparison situation was used, and from the qualitative study in Chapter 4 which used data obtained from an opportunity sample of students who were eager to participate. These potential sources of bias do not invalidate the results but do give us pause when generalizing the results to other students in other contexts.

## **Peer comparison and collective learning**

This thesis' research outcomes showed how students contributed to one another's learning. Travelling on similar trajectories, they all have to develop the same competences, skills and attitudes. Their active engagement in real practices involves socialisation into the appropriate role of medical doctors. In medical education, this process is described as challenging, specifically to those who had just entered clinical practice.<sup>13-15</sup> Given their early stage of development, they are considered to be 'literally unable to understand' what issues, symptoms and signs of real practice are relevant in the eyes of a skilled practitioner.<sup>16</sup> This lack of understanding hampers their conversations with residents and staff, and their dealings with patients, which could easily cause feelings of insecurity and embarrassment. This thesis' research outcomes showed the vital role peers play in coping with this challenging learning situation. Students tend to exchange experiences whenever they meet because peers are so close to their own stage of development, Chapter 2. The comparisons help them estimate their own abilities to master clinical situations, Chapter 3, and to understand their current position and learning experiences related to that position, Chapter 4. To prevent distress, peer comparisons are also used to place these experiences in perspective, Chapter 5. Students' frequent use of social comparison revealed a quite collective way of learning and understanding in clinical practice.

To get a better insight into this collective learning, future research is recommended to specify the impact of the students' use of social comparison on their clinical performance and professional development. Future research is also required to fully elucidate the impact of individual differences in comparison behaviours and in organisational and personal circumstances which influence the comparison process.

## **Peer comparison and individual development**

Students' use of peer comparison does not mean that their trajectories are identical or that they will become identical doctors. Individual differences, situations and circumstances can lead to different outcomes, even though the use of one another's experiences brings them together. To begin with, peer comparisons such as those about their clinical activities, the wearing of the white coat and the use of medical terminology (Chapter 4), helped students develop a shared sense of identity.<sup>17</sup> This is in line with the work of Weaver et

al.,<sup>18</sup> who described a sense of peer unity amongst students in clinical practice, and of Jarvis Selinger et al.,<sup>19</sup> who explained how novice students develop the identity of a clerk alongside their clinical competencies. However, despite these shared identities, students' use of social comparison could also reveal relevant differences between themselves and their peers of influence to their self-concept.<sup>20</sup>

Future research is needed to understand how students' use of social comparison affects their identity development over time. Peer comparison is assumed to help them develop the shared identities of young professionals meeting the standards of modern society. However, peer comparison could also reveal individual strengths and weakness, interests and capabilities of influence to personal choices. Peer comparison is therefore worth considering in future research on student career choices and selection of medical specialties.

### **Implications for practice**

This thesis about students' use of social comparison provides some clear recommendations for educational practice. Its research outcomes revealed a specific and vital role of peers in clinical workplace learning. The existence of *peers should not be overlooked* in the field of relevant players in medical education. Students in clinical practice frequently check their learning experiences against one another. Supervisors should *be conscious of students' tendency to compare themselves with peers*. Performing at a similar stage of development, comparison peers are used as reference points. Supervisors should also *be conscious of the vital role of peer comparison in students' professional development*. Peer comparison appeared to be mainly positive for learning as it helped students understand their current level of development, and showed them what they had already achieved and could achieve in the near future. It is therefore recommended to *promote peer comparisons and facilitate student encounters*, for example through dyad practice, coaching groups and joint lunches. Having recognised the important role of peer comparisons in students' development, it seems wise to *talk with students about their comparison behaviour* as part of their education. Such attention to the students' use of social comparison could reveal beliefs about their own potential which are worth encouraging. Likewise, it provides the opportunity to *be attentive to possible negative comparison outcomes* such as insecurity or distress. Where students are hampered by their own comparison behaviours,



this thesis also offers some starting points to *help students develop better comparison strategies*. Since most comparisons are implicitly made, it is recommended that these students are helped to become aware of their individual use of social comparison and informed about the pros and cons of various aspects of the comparison process.

## **Conclusion**

Four coherent studies on students' use of social comparison identified the vital influence of peers in clinical workplace learning. First, evidence was provided of students' frequent use of peer comparison. Second, peer comparisons were shown to influence students estimates of performance. Third, students' use of social comparison in authentic settings revealed how comparison peers were used as benchmarks which helped students to progress into the medical domain and shape their professional identities. Fourth, relevant differences between the comparison strategies of students expressing low and high levels of distress revealed some characteristics of beneficial comparison behaviour. Together, these studies provided strong evidence of the central place of peers in clinical workplace learning. This thesis, therefore, contributes to the literature and to contemporary insights into learning and professional development.

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