A cross-sectional pilot study of student's proactive behavior in midwifery education: Validation of a developed questionnaire

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ABSTRACT

Objectives: Midwifery students face major challenges in adapting quickly and effectively to different clinical settings. Proactive behavior, triggered by various individual and/or contextual antecedents, could be a significant added value to cope with these challenges.

Design: A cross-sectional pilot study was conducted to investigate prognostic factors in proactive behavior in a group of midwifery students.

Settings: The setting was a Belgian University College for midwifery education.

Participants: All second and third year midwifery students (n = 156).

Methods: Students were questioned regarding several prognostic factors: four personal characteristics, seven individual antecedents and three contextual antecedents that might trigger proactive behavior. A proportional odds logistic regression analyses was used to describe the association between prognostic factors and the probability to observe proactive behavior within the group. The strength of the newly developed questionnaire was tested.

Results: Of all tested prognostic factors, nationality, role breadth self-efficacy, referring to the self-confidence of a midwifery-student to perform tasks that exceed expectations, and control appraisal, describing the importance attached to one's perceived control, were significantly associated with proactive behavior. The overall strength of the questionnaire was rated. Two of the original questions were deleted, two re-formulated and for one prognostic factor the answer-options were re-formulated.

Conclusions: Findings from this pilot study show that midwifery students who have a high role breadth self-efficacy and low control appraisal are more likely to show proactive behavior. Additionally, Dutch students are more likely to show proactive behavior in relation to Belgian students. The questionnaire's feasibility was examined and adjustments were made for future research in a larger study to confirm these outcomes. This study can be a support in the individual guidance of midwifery students towards proactive behavior in midwifery.

1. Introduction

Proactive behavior of midwives brings benefits to the constantly evolving field of reproductive health care (Mestdagh et al., 2016). Midwives who behave proactively tend to constantly focus on improving quality and work-efficiency and show better coping attitudes towards stress resistance (Griffin et al., 2007; Parker and Sprigg, 1999). As a result of increases in proactive behavior, higher job satisfaction could occur, triggering a stronger commitment to the midwifery team resulting in improved productivity of the midwifery team (Parker, 2007; Seibert et al., 2001). Midwives who behave proactive, work autonomously, adapt easily, are always one step ahead and constantly in search for the most effective and qualitative state-of-the-art. This behavior has been identified as an important determining factor for organizational success (Crant, 2000; Frese and Fay, 2001). This study argues that it is essential to study the link between proactive behavior and future consequences for midwifery. To detect proactive behavior as early as possible, the formation of the midwife during midwifery education is considered to be the study population. Student characteristics and their relation to proactive behavior were explored. This

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information is important in determining whether the level of proactive behavior could be strengthened through midwifery education.

2. Background

Current debates in midwifery-education focus on how to educate midwives for the 21st century. New or expanded roles for midwives are seen as essential for their contribution to high quality healthcare and for the development of the profession (Begley et al., 2007). Advanced midwifery practice, seen as the utilization of extended and expanded skills, experience and knowledge are the main subject of discussion (Goemaes et al., 2016). In advanced midwifery practice, midwifery education is about more than acquiring appropriate skills and competences in order to provide a high standard of safe, evidence-based care (Bharj et al., 2016). The educational context involves supporting students to form and successfully integrate their professional selves (Goldie, 2012). To do so, midwifery students work in multiple clinical settings, including maternity ward, labor ward and delivery room, operating room, neonatal ward, fertility ward and triage in outpatient and inpatient settings. Midwifery students thereby face major challenges of adapting quickly and effectively to different clinical settings.

During midwifery education, students do leave the program, mostly due to expectations that are not met and high study pressure (ten Hoeve et al., 2017). Part of this study goal was to consider ways to provide better information and support to students to prepare them for the challenges that they face. Drawing on the literature, this study identified that proactive behavior of a midwifery student might add significant value to their role to support the challenges of continuous adaptation. Proactive behavior refers to not looking at changes as a boundary, persistently improve situations experienced as incorrect, anticipating future barriers and to look for viable alternatives to carry out the work as efficiently and effectively as possible (Mestdagh et al., 2016). Various individual and/or contextual antecedents trigger proactive behavior. An important prerequisite of a midwifery student’s attitude towards proactive behavior is based on his or her informed beliefs and motivation that the behavior will bring about a set of salient outcomes (Glasman and Albarracin, 2006). This pilot study focuses on the investigation of the presence of those antecedents in a population of midwifery-students and explores their association with proactive behavior.

3. Methods

3.1. Study Design

During the 2015–2016 academic year, midwifery students (n = 156) at the Artesis Plantijn University College in Antwerp, Belgium, participated in a study to explore the origin and inter-relationships between identifiable antecedents and their association with proactive behavior.

Based on a study of Parker et al. (2006) a set of individual and contextual antecedents related to proactive behavior were listed. A 75-item questionnaire was developed where each variable was assessed using existing and validated tools. Fig. 1 schematically explains the construction of the questionnaire. The level of proactive behavior was assessed by the concept of proactive idea implementation constructed from five components. These components are 1) creating cost and/or 2) time savings, 3) improving quality, 4) achieving improved results and 5) working together more efficiently. The midwifery students in our sample were asked how many new ideas they had concerning these components, whether they had shared their idea(s) with anyone, and whether these ideas were implemented by anyone (themselves or others).

The individual antecedents were divided into seven subcategories: (1) generalized compliance, (2) affective organizational commitment, (3) role breadth self-efficacy, (4) flexible role organization, (5) proactive personality, (6) change orientation and (7) control appraisal. Generalized compliance, specified as a conscientiousness form about what a good ‘student’ ought to do in order to help achieve the organizational goals (Wagner, 2008), was assessed based on Smith et al.’s (1983) method in which students score their level of attendance, accuracy and punctuality. The level of affective organizational commitment, explained by the level of ‘emotional fit’ to the organization (Stayzyn et al., 2011; Yew, 2011), was deduced from the commitment scale of Cook and Wall (1980), whereby eight items were textually adjusted to the educational context. Role breadth self-efficacy, referring to the self-confidence of a person to perform tasks that exceed expectations, was polled by seven questions derived from Parker’s questionnaire (1998). Flexible role orientation, referring to the awareness of the students in their ownership and accountability of the development of their role (Parker, 2007), was assessed by ten statements in which students had to indicate to what extent certain events are self-inflicted or under the influence of others, for instance their peers. Proactive personality, known as the likelihood to take initiative to get things done, was assessed by means of four items of the proactive scale of Bateman and Crant (1993). The belief in one’s personal responsibility to bring positive and constructive change, meaning change orientation (Ovusu-Ansah, 2008), was tested with five questions taken from the validated scale of Parker et al. (2006). Control appraisal, describing the importance attached to one’s perceived control (Alexander, 2000) was derived from the control-measurement of Ovusu-Ansah (2008).

Contextual antecedents were divided into three subcategories; (1) coworker trust, (2) job autonomy and (3) supportive supervision. Based on the scale for interpersonal trust by Cook and Wall (1980) the level of coworker trust, as in the extent fellow students trusting one another (Lau and Liden, 2008), was explored in three items in which students had to indicate to what extent they agreed. From the original fourteen items reported by Lin et al. (2013), only eight remained suitable for the educational context to test the level of job autonomy, which can be described as the practice of involving the students in the decision-making hierarchy with respect to their primary study tasks. The last contextual antecedent, supportive supervision, defined as a form of supervision by peers and or teachers who help students to improve their own work performance continuously in a respectful and non-authoritarian way, was derived by three items out of the self-management leadership questionnaire of Manz and Sims (1987).

Besides the individual and contextual antecedents, a four-item personal characteristics questionnaire was used to obtain a transparent description of the midwifery students in this pilot study. The predefined questions, which were adapted to the educational context, were translated and retranslated. Content validity (Polit and Beck, 2006) was determined by the examination of the instrument by an expert panel consisting of lecturers (n = 3), students (n = 6) and midwives (n = 4) on the item-level (I-CVI, 0.81–1.00) as well the scale-level (S-CVI, 0.92–1.00).

3.2. Study Participants

A total of 156 midwifery students participated in this pilot study. The student’s characteristics are shown in Table 1. All students were female and their mean age was 21.4 year. More than half (n = 82; 53%) of the studied population had just finished their first year of midwifery education, and there was a larger percentage of Dutch students (n = 99; 63%) compared to Belgian students (n = 53; 34%).

3.3. Ethical Considerations

The study was approved by the management and research director of the midwifery education at the Artesis Plantijn University College. An informed consent form, with information about the aim and design of the study was given to the respondents. All participants (n = 156) gave written consent, were referred to the confidential aspect of their
The proportional odds model (Agresti, 2002) was necessary, as this model gives an example of the models' equation for the logit of the cumulative probability of observing a proactive idea implementation score \( \leq 1 \).

The cumulative logit is defined by an intercept term \( (\beta_0) \) and additional parameters \( (\beta_1, \beta_2, \text{etc.}) \) describing the change in the cumulative logit as a function of specific prognostic factors \( (\text{Cov}_1, \text{Cov}_2, \text{etc.}) \), being the individual and contextual antecedents as well as the personal characteristics of the midwifery students. Afterwards logits were back-transformed to cumulative probabilities using the inverse logit transformation. Subsequently, the probabilities for each category were obtained by subtraction from the cumulative probabilities, with the probability to observe a proactive idea implementation score less than or equal to 5 being 1.

By introducing fourteen different prognostic factors into this model, the association with the probabilities of observing the different proactive idea implementation outcomes was explored. Continuous prognostic factors, such as 'Role Breadth Self-Efficacy', 'Affective Organizational Commitment', etc. were centered at the median value observed in our pilot study (as shown in Table 2). 'Backwards elimination', guided by likelihood ratio testing (LRT) at the 5% level of significance was used. The final model was derived, starting from a model, which contained all prognostic factors, by excluding all non-significant factors according to the LRT. After establishment of the appropriate factors in the model, the linearity assumption for the continuous covariates in the final model was assessed. Furthermore, LRT was performed at the 5% level of significance to test whether 2-way interaction terms should be added to further refine the model. The analyses were performed on the complete cases only, so whenever one summed-score was missing, the student was deleted from the study. In this way only 98 observations remained.

Fitting of the models to the observed data, and subsequent evaluation of the model's goodness-of-fit and the uncertainty of the estimated parameters was performed in R* (R foundation for statistical computing, Vienna, Austria).

### Table 1

Student's personal characteristics.

<table>
<thead>
<tr>
<th>Personal characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17–18</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>19–20</td>
<td>54</td>
<td>35</td>
</tr>
<tr>
<td>21–22</td>
<td>41</td>
<td>26</td>
</tr>
<tr>
<td>&gt; 23</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>Number of years in the education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>82</td>
<td>53</td>
</tr>
<tr>
<td>2</td>
<td>29</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>32</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>&gt; 4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgian</td>
<td>53</td>
<td>34</td>
</tr>
<tr>
<td>Dutch</td>
<td>99</td>
<td>63</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>156</td>
<td>100</td>
</tr>
<tr>
<td>Male</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

participation and reassured that they would not be identifiable in any reports or published work.

### 3.4. Data Collection and Analysis

To avoid bias to socially desirable responses, questionnaires were completed under the supervision of students and processed anonymously to the research team. Questionnaire duration was estimated at an average of 15 min. At the end of the questionnaire a blank space was left for general comments.

The raw data from each student's responses were coded numerically. Questions where multiple answers were possible were coded as 4 for totally agree, 3 for agree, 2 for disagree and 1 for totally disagree. Summed-scores per student per antecedent were used in the analysis. Following a content validity check, one of the questions regarding job autonomy was considered ambiguous. Based on this common remark, this question was removed.

The small group of students who were not Dutch or Belgian \( (n = 4) \) were added to the Belgian group because of the very small numbers. Students having started the educational program for four years ago or more were combined into one group.

Proportional odds logistic regression was used to describe the distribution of proactive idea implementation in this study population. A proportional odds model (Agresti, 2002) was necessary, as this model takes into account, not only the categorical nature of the proactive idea implementation (i.e. outcomes can only take on a limited set of values), but also the ordinal relationship between the proactive idea implementation categories (e.g. it is less likely to observe a proactive idea implementation score of 5 than it is to observe a proactive idea implementation score of 4). This model is parameterized such that a linear combination of parameters define the different cumulative log odds (i.e. logits). For proactive idea implementation, which has 6 possible outcomes, 5 cumulative logits were defined (Agresti, 2002).

### Box 1

Eq. (1).

\[
\text{Logit } (\Pr[\text{PII } \leq 1]) = \log \left( \frac{\Pr[\text{PII } \leq 1]}{1 - \Pr[\text{PII } \leq 1]} \right) = \beta_0 + \beta_1 \times \text{Cov}_1 + \beta_2 \times \text{Cov}_2 + \ldots
\]
4. Results

The estimated parameters from the final proportional odds logistic regression model are shown in Table 3. Of all tested prognostic factors, only nationality, role breadth self-efficacy and control appraisal were significant and their parameters estimable with acceptable precision (i.e. 95% confidence intervals not containing zero). From Table 3, we can see that a Belgian student, with a role-breadth self-efficacy score of 18, and a control appraisal of 9, has 62.1%, 21.4%, 9.5%, 3.7%, 2.1% and 1.2% chance of presenting a proactive idea implementation score of 0, 1, 2, 3, 4 or 5 respectively. The Dutch nationality, rather than the Belgian and role breadth self-efficacy, are negatively associated with the cumulative logits and therefore lead to a shift in the probabilities towards higher proactive idea implementation scores. In contrast to this, control appraisal is positively associated with the cumulative logits and higher control appraisal scores are therefore associated with increasing probabilities for lower proactive idea implementation scores.

More quantitatively, Table 3 shows that, for example, the odds of a unit increase in role breadth self-efficacy or control appraisal is 0.841 (95% CI: [0.734; 0.959]) and 1.331 (95% CI: [1.083; 1.652]), respectively.

In order to further clarify the impact of the prognostic factors, Fig. 2 shows the predicted probabilities for the different proactive idea implementation scores for different specific student profiles. The Belgian student, with a low role breadth self-efficacy and high control appraisal, represents the worst-case scenario, whereas the Dutch student, with high role-breadth self-efficacy and low control appraisal represents the best-case scenario.

5. Discussion

The aim of this pilot study was to clarify the strength of the questionnaire and to explore associations between individual and contextual antecedents and the probability to show proactive behavior. Research has already shown that persons with a high role breadth self-efficacy are more open to organizational changes and report more learning and innovative behaviors (Nauta et al., 2009). It inspires confidence that this trend is also found in this pilot study with proactive behavior. This study could not confirm the findings of Bailey et al. (2016), stating that supportive supervision can increase job satisfaction and health worker motivation, and therefore the tendency of showing proactive behavior.

![Fig. 2. Predicted probabilities for all proactive idea implementation scores for a selection of student profiles.](image)

**Table 2**

Descriptive statistics for each prognostic factor.

<table>
<thead>
<tr>
<th>Prognostic factors</th>
<th>Number</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proactive Idea Implementation</td>
<td>155</td>
<td>1.06</td>
<td>1.32</td>
<td>1</td>
<td>0–5</td>
</tr>
<tr>
<td>Age</td>
<td>156</td>
<td>21.37</td>
<td>3.6</td>
<td>21</td>
<td>17–47</td>
</tr>
<tr>
<td>Nationality</td>
<td>156</td>
<td>/</td>
<td>/</td>
<td>2</td>
<td>3–3</td>
</tr>
<tr>
<td>Number of years in the education</td>
<td>155</td>
<td>8.12</td>
<td>1.16</td>
<td>9</td>
<td>3–9</td>
</tr>
</tbody>
</table>

**Table 3**

Proportional odds logistic regression model.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>95% Confidence Interval</th>
<th>Estimate*</th>
<th>95% CI*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept Logit(Proactive Idea Implementation = 0)</td>
<td>0.496</td>
<td>[−0.111; 1.103]</td>
<td>62.1%</td>
<td>[47.2%; 75.1%]</td>
</tr>
<tr>
<td>Intercept Logit(Proactive Idea Implementation ≤ 1)</td>
<td>1.625</td>
<td>[0.962; 2.287]</td>
<td>83.5%</td>
<td>[72.3%; 90.7%]</td>
</tr>
<tr>
<td>Intercept Logit(Proactive Idea Implementation ≤ 2)</td>
<td>2.599</td>
<td>[1.857; 3.541]</td>
<td>93.1%</td>
<td>[86.5%; 96.6%]</td>
</tr>
<tr>
<td>Intercept Logit(Proactive Idea Implementation ≤ 3)</td>
<td>3.417</td>
<td>[2.558; 4.376]</td>
<td>96.8%</td>
<td>[92.8%; 98.6%]</td>
</tr>
<tr>
<td>Intercept Logit(Proactive Idea Implementation ≤ 4)</td>
<td>4.522</td>
<td>[3.355; 5.689]</td>
<td>98.9%</td>
<td>[96.6%; 99.9%]</td>
</tr>
<tr>
<td>Nationality (Dutch vs. Belgian)</td>
<td>-1.155</td>
<td>[-1.904; -0.439]</td>
<td>0.315b</td>
<td>[0.149; 0.645]b</td>
</tr>
<tr>
<td>Role Breadth self-efficacy (continuous, centered around 18)</td>
<td>-0.173</td>
<td>[-0.309; -0.041]</td>
<td>0.841b</td>
<td>[0.734; 0.959]b</td>
</tr>
<tr>
<td>Control Appraisal (continuous, centered around 9)</td>
<td>0.286</td>
<td>[0.080; 0.502]</td>
<td>1.331b</td>
<td>[1.083; 1.652]b</td>
</tr>
</tbody>
</table>

The odds ratio for, e.g. a 2-units increase in role-breadth self-efficacy can be calculated according to: \(e^{\Delta RBSE} \times \frac{\text{ARRBSE}}{\text{unit deviation}}\) with AARBSE giving the unit deviation from the median RBSE value of 18.

* Estimate and CI on probability scale, back-transformed using inverse logit transformation.

b Estimate and CI expressed as odds-ratios, back-transformed using the exponential transformation.
Stazyk et al. (2011) also linked high affective organizational commitment to proactive behavior. Although in this pilot study most midwifery students had a relative high affective organizational commitment-score (mean = 5.13), no significant association was found with proactive behavior. The data does not show any statistical significant interaction between most of the antecedents. There is a slight trend (p ~ 0.015) of interaction between nationality and role-breadth self-efficacy, suggesting that the influence of role breadth self-efficacy would practically disappear for the Belgian midwifery students and in the opposite, would double the effect for the Dutch midwifery students. Due to the small included sample (n = 98) the statistical evidence is not solid.

The internal reliability tests, scored by Cronbach's alpha could get a higher score (> 0.70) for four of the antecedents (generalized compliance 0.71, affective organizational commitment 0.72, proactive personality 0.72 and control appraisal 0.70) when one question was deleted. One might conclude that some of the bundled questions are not consistent, or some questions were filled in randomly. After studying the concerned questions, one question of proactive personality was reformulated, and one question of affective organizational commitment deleted. The number of missing responses (n = 34) to the set of flexible role orientation-questions may indicate that midwifery students did not understand these questions well enough, or that the items were not meaningful to them. Four of the involved students were questioned and with their insights, the possible answers were reformulated.

Based on this pilot study, the composed questionnaire will be refined and again presented to an expert panel. The reviewed questionnaire will be supplemented with a secondary approach to measuring proactive behavior. In a recent study, midwifery situations in which proactive behavior could have worked, from a midwifery student perspective, are being mapped. Based on those common situations, midwifery students will be asked how they would react to these situations. The possible answers will vary from very proactive to less or not proactive. Again, possible associations between the antecedents and the level of proactive behavior will be searched for within a larger sample size, being all midwifery students in the Flemish part of Belgium (n ~ 2000).

As this was a single-institution pilot study, with limited participant numbers, it is important to report that this study shows promise, but further studies with larger sample sizes and further replication of these findings in other institutions with multiple evaluators are necessary to validate the findings of this study.

6. Conclusion

According to this pilot study, midwifery students who have a high role breadth self-efficacy and low control appraisal are more likely to show proactive behavior. The low score on control appraisal suggests that midwifery students who have the tendency to show proactive behavior do not immediately feel the importance attached to one's perceived control. Future research should focus on the ways in which lectures could encourage the role breadth self-efficacy-level of the midwifery students (Axtell and Parker, 2003) and reduce their control appraisal. As an additional finding Dutch students are more likely to show proactive behavior in relation to Belgian students. Further research could identify why nationality or culture could cause such a difference.

Due to this pilot study, the feasibility of the questionnaire had been examined and adjustments will be made for future research in a subsequent larger study to confirm the possible associations seen in this study and or possibly look for more outcomes that are salient. In a later stage, this survey could be applied in practice at the start of the educational program so that both students and teachers can gain a more nuanced understanding of the characteristics of the midwifery candidates. This may ensure better guidance of students, in a more personal and individual way, towards more proactive behavior in midwifery.

Conflict of Interest

No conflict of interest has been declared by the author(s).

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Appendix A. Questionnaire

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Personal characteristics
1. What is your year of birth?
2. What is your gender (Male, Female)
3. What is your nationality (Belgian, Dutch, Others:…)

Individual antecedents
Generalized compliance
5. I attend the classes as frequently as possible (totally agree, agree, disagree, totally disagree)
6. I try to be accurate (totally agree, agree, disagree, totally disagree)
7. I do not take unnecessary breaks (totally agree, agree, disagree, totally disagree)
8. I spend no time on useless conversations (totally agree, agree, disagree, totally disagree)

Affective organizational commitment
9. I feel as a full participant in this study (totally agree, agree, disagree, totally disagree)
10. I am proud of my choice of this study program (totally agree, agree, disagree, totally disagree)
11. I am proud of my choice of this University College (totally agree, agree, disagree, totally disagree)
12. I am considering to terminate this study program (totally agree, agree, disagree, totally disagree)
13. I am considering to leave this University College (totally agree, agree, disagree, totally disagree)
14. Even this university College I am studying would not be well recommended, I would still stay (totally agree, agree, disagree, totally disagree)
15. I would recommend a midwifery study to my friends (totally agree, agree, disagree, totally disagree)
16. I would recommend this University College to my friends (totally agree, agree, disagree, totally disagree)

Role-breadth self-efficacy
17. How confident would you feel to give a presentation to your peers? (Totally confident, confident, not confident, totally not confident)

18. How confident would you feel to formulate goals regarding to your midwifery study? (Totally confident, confident, not confident, totally not confident)

19. How confident would you feel to design new procedures in the midwifery educational area? (Totally confident, confident, not confident, totally not confident)

20. How confident would you feel to contact people from outside your University College to discuss problems? (Totally confident, confident, not confident, totally not confident)

21. How confident would you feel to analyse problems regarding to your midwifery education in order to find a solution? (Totally confident, confident, not confident, totally not confident)

22. How confident would you feel to give a presentation to your lecturers? (Totally confident, confident, not confident, totally not confident)

23. How confident would you feel to talk to students from another University College and make suggestions to tackle things differently? (Totally confident, confident, not confident, totally not confident)

Proactive Personality

24. Whenever I believe in something, I will make it happen (totally agree, agree, disagree, totally disagree)

25. I love to be praised, even if others are against (totally agree, agree, disagree, totally disagree)

26. I am excellent at identifying opportunities (totally agree, agree, disagree, totally disagree)

27. If I believe in an idea, no obstacle will prevent me from making it happen (totally agree, agree, disagree, totally disagree)

Change orientation

28. It is always good to try and test things (totally agree, agree, disagree, totally disagree)

29. When an organization is running smoothly, there is no need to think about changing things (totally agree, agree, disagree, totally disagree)

30. As a student I should book results and not worry about strategic goals or organizational missions (totally agree, agree, disagree, totally disagree)

31. In the long run, I achieve better results if I stick to what I already know, rather than learning new things (totally agree, agree, disagree, totally disagree)

Control appraisal

32. Too often routines are changed just for the sake of change (totally agree, agree, disagree, totally disagree)

Flexible role orientation

33. During my study most of the problems that I experience are completely “out of my hands.” (totally agree, agree, disagree, totally disagree)

34. With many of the problems I experience, it is not worth telling anybody because nothing will change (totally agree, agree, disagree, totally disagree)

35. As a student I am powerless to control the outcomes of the tasks I work on (totally agree, agree, disagree, totally disagree)

36. In my study the same problems keep happening again and again, regardless of what I do (totally agree, agree, disagree, totally disagree)

Contextual antecedents

Co-worker Trust

47. There is a great deal of trust among my fellow students in this midwifery study program (totally agree, agree, disagree, totally disagree)
48. If I got into difficulties during my midwifery study program, I know my fellow students would try to help me out (totally agree, agree, disagree, totally disagree)
49. I have full confidence in the skills of my fellow students in this midwifery study program (totally agree, agree, disagree, totally disagree)

Supportive supervision
50. The lecturers in my midwifery study program do encourage us to set clear and achievable goals (totally agree, agree, disagree, totally disagree)
51. The lecturers in my midwifery study program do encourage us to praise each other as fellow students for doing a good job (totally agree, agree, disagree, totally disagree)
52. The lecturers in my midwifery study program do encourage us to be aware of our level of performance (totally agree, agree, disagree, totally disagree)

Job autonomy
53. In this midwifery study program I can help to decide how much work each fellow student will do (totally agree, agree, disagree, totally disagree)
54. In this midwifery study program I can allocate tasks among my fellow students (totally agree, agree, disagree, totally disagree)
55. In this midwifery study program I get involved in the selection of fellow students to join the team I work in (totally agree, agree, disagree, totally disagree)
56. In this midwifery study program I cover my fellow students (totally agree, agree, disagree, totally disagree)
57. In this midwifery study program I get involved in the improvement of the performances of my fellow students (totally agree, agree, disagree, totally disagree)

Proactive behavior: proactive idea implementation
58. In this midwifery study program I help to monitor the overall performance of my fellow students (totally agree, agree, disagree, totally disagree)
59. In this midwifery study program I get involved in the training of my fellow students (totally agree, agree, disagree, totally disagree)
60. In this midwifery study program I get involved in the discipline of my fellow students (totally agree, agree, disagree, totally disagree)
61. During my midwifery study program I had some new cost-effective ideas concerning the midwifery study program (0, more than 1)
62. During my midwifery study program I have discussed this new cost-effective ideas concerning the midwifery study program with others (no, yes by myself, yes by my lecturers, yes with somebody else:…)
63. During my midwifery study program I have implemented one or more new cost-effective idea concerning the midwifery study program (no, yes by myself, yes by others, yes with somebody else:…)
64. During my midwifery study program I had some new quality-improvement ideas concerning the midwifery study program (0, more than 1)
65. During my midwifery study program I have discussed this new quality-improvement ideas concerning the midwifery study program with others (no, yes with my fellow students, yes with my lecturers, yes with somebody else:…)
66. During my midwifery study program I have implemented one or more new quality-improvement idea concerning the midwifery study program (no, yes by myself, yes by others, yes with somebody else:…)
67. During my midwifery study program I had some new time-saving ideas concerning the midwifery study program (0, more than 1)
68. During my midwifery study program I have discussed this new time-saving ideas concerning the midwifery study program with others (no, yes with my fellow students, yes with my lecturers, yes with somebody else:…)
69. During my midwifery study program I have implemented one or more new time-saving idea concerning the midwifery study program (no, yes by myself, yes by others, yes with somebody else:…)
70. During my midwifery study program I have some new ideas concerning the achievement of better results in my the midwifery study program (0, more than 1)
71. During my midwifery study program I have discussed these ideas concerning the achievement of better results in my midwifery study program with others (no, yes with my fellow students, yes with my lecturers, yes with somebody else:…)
72. During my midwifery study program I have implemented one or more idea the achievement of better results in my midwifery study program (no, yes by myself, yes by others, yes with somebody else:…)
73. During my midwifery study program I had some new ideas concerning work-effectiveness in the midwifery study program (0, more than 1)
74. During my midwifery study program I have discussed these new ideas concerning work-effectiveness in the midwifery study program with others (no, yes with my fellow students, yes with my lecturers, yes with somebody else:…)
75. During my midwifery study program I have implemented one or more new time-saving idea concerning the midwifery study program (no, yes by myself, yes by others, yes with somebody else:…)

References


