**Faculty’s Barriers to Mentoring Freshmen within an Interinstitutional Context: Applying the Theory of Planned Behavior**

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**Abstract**

In order to investigate faculties’ barriers to mentoring freshmen within an interinstitutional (and possibly reluctant) context, a questionnaire survey (N=390), based on the Theory of Planned Behavior, was conducted prior to the inception of a wide mentoring program involving nine Belgian higher education institutions. Stepwise multiple regressions pinpointed the predictors of faculty’s intention to participate in the program and their underlying beliefs. Results reveal that the obstacles commonly attributed to mentoring in the literature do not necessarily come out of this empirical approach and, conversely, that normative factors, underrepresented in research, can play an important role in resistance to or acceptance of mentoring. These findings contribute to a better knowledge of how likely freshmen instructors are to become involved in a mentoring program. It also has practical applications in helping to anticipate possible difficulties in implementing such a program. Lastly, the paper highlights practical implications for the Belgian consortium.

*Keywords:* Mentoring barriers, faculty-freshmen mentoring, higher education, Theory of Planned Behavior

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**Introduction**

The first academic year has a considerable influence on subsequent success in post-secondary education. For this reason, predictors of achievements and persistence (van Rooij et al., 2018) or failure and dropout (van der Zanden et al., 2018) have inspired researchers, and are also a concern for facilitators of the transition. Freshmen mentoring is one of those facilitators. The literature reports several benefits of mentoring (e.g., Sneyers & De Witte, 2018) and mentoring programs flourish (Lunsford et al., 2017) despite well-documented barriers (e.g., Ehrich et al., 2004; Law et al., 2019). This paper contributes to a better knowledge of these barriers by inspecting, at the outset of a wide interinstitutional mentoring program in the Wallonia-Brussels Federation of Belgium (WBF), the readiness/reluctance of higher education teachers to mentor. To do so, it draws on the Theory of Planned Behavior (TPB; Ajzen, 1985, 1991). Despite the broad success of TPB (Ajzen, 2020), the present study is the first to rely on this comprehensive framework to investigate what stimulates or inhibits faculty’s intention to mentor. This approach can also be of great interest to mentoring developers as it permits the identification of contextually relevant levers to promote mentoring.

After a review of mentoring and its barriers, we present the TPB and discuss its potential for mentoring research. The program and context where the present study took place are then described. Research questions and predictions are defined and followed by the study. Results are described and discussed, as are limitations and future perspectives.

**Mentoring freshmen**

Many definitions of mentoring have been proposed (Jacobi, 1991; Johnson, 2015). Johnson (2015, p. 23) defined mentoring in academia as “a personal and reciprocal relationship in which a more experienced faculty acts as a guide, a role model, teacher and sponsor of a less experienced student […]. A mentor provides the mentee with knowledge, advice, counsel, challenge and support in [the] mentee’s pursuit of becoming a full member of a particular profession”. Jacobi (1991) distinguished four mentoring models in higher education (HE), which circumscribe the main roles endorsed by mentors. The first model concerns involvement in learning, where mentors encourage mentees to actively deepen their involvement, and provide corresponding opportunities. The second model is about academic and social integration which, since Tinto’s first attrition model (Tinto, 1975), are considered to be important predictors of students’ retention and success. In this model, mentors improve mentees’ feelings of belonging by the acceptance, validation and friendship they offer, and facilitate mentees’ understanding of the institutional culture. The third model is about the social support mentors offer, which is informational as well as emotional. The last model concerns developmental support and refers to mentors who, by their accessibility, authenticity, knowledge and ability to talk with students, favor students’ cognitive development. Nora and Crisp (2007) also proposed four categories or dimensions of mentoring based on what it offers to mentees : psychological support, support in defining goals and academic/career paths, support in gaining academic knowledge and role modeling. In the vast majority of cases, mentors were found to act in multiple roles for student support (Gershenfeld, 2014).

The benefits of mentoring are numerous and partially depend on who mentors are (e.g., peers or faculty) and where students are on their academic path (Lunsford et al., 2017). Studies showed that freshmen actively engaged by faculty were more likely to persist as sophomores and later until graduation, to have higher grade point averages and to complete more credit hours (Campbell & Campbell, 1997). However, undergraduate mentoring was generally less developed than later mentoring (Johnson, 2015).

**Barriers to mentoring**

Previous research has evidenced several barriers to mentoring. A review of more than 300 articles about mentoring in educational, business and medical contexts concluded that lack of time, professional expertise and/or personality mismatch were the most frequent difficulties cited by mentors (Ehrich et al., 2004). The same barriers were also recently found in the context of nurse mentoring (Merga et al., 2020) and figured among the 14 barriers to undergraduate mentoring recently elicited by US faculty (Law et al., 2019). Going beyond the aforementioned results merely mirroring qualitative data, Morales et al. (2017) applied a conceptual framework coupled with an inferential approach to the factors predicting faculty’s interest in mentoring. By taking up Allen’s model of mentoring motivation, initially proposed in a corporate context (Allen, 2007), the authors identified five categories of factors that could impact mentors’ motivation, namely expected costs and benefits, dispositional factors, situational factors, previous mentoring experience and demographic factors. Morales et al. (2017) engaged the extant literature about mentoring in HE to identify factors pertaining to each category and developed a conceptual model of hypothesized influences on faculty’s interest in mentoring undergraduate research programs. This model was tested via a questionnaire investigating each factor using Likert scales, which permitted to rely on inferential analyses to evaluate the contribution of each factor in predicting respondents’ motivation. It appeared that not all predictors, although selected from previous research, attained significance.

The work of Morales et al. (2017) highlighted the benefits of building on a conceptual model for investigating faculty’s motivation to mentor. Moreover, it evidenced the interest of relying on an inferential approach in determining which predictors found in previous research attained a significant predictive power. However, the fact that not all factors reached significance could be attributed to contextual variations that were not taken into account through the process. Ssemata et al. (2017) called for a consideration of the institutional context as it impacts on mentors and mentees’ experiences, challenges and needs. To overcome those limitations, further work called for an extended research approach keeping a comprehensive framework and an inferential approach and taking contextual specificities into account. The TPB appeared to be a prime candidate for this task, as argued in the next section.

**The Theory of Planned Behavior**

Intending to study and explain the factors that can predict behaviors and concretely foster/reduce positive/negative ones, Ajzen developed the Theory of Planned Behavior (Ajzen, 1985, 1991). According to the TPB, performing a planned behavior is directly predicted by people’s intention to endorse it. This intention is itself predicted by three predictors, each covering two aspects. The first predictor, *attitude*, consists in the evaluation people make about endorsing the behavior. It is cognitive by evaluating the consequences of the behavior as well as experiential by considering its agreeableness. The second predictor, *subjective norm*, relates to the social norms that people perceive. It is descriptive by considering what others do as well as injunctive by considering others’ expectations. The third predictor, *perceived behavioral control (PBC)*, consists in the control people feel they have on behavioral performance. PBC refers to people’s perceived ability as well as autonomy in performing behavior. Each of these predictors, in turn, comes from a set of predictive beliefs.

As a conceptual framework, the TPB is applicable to every planned behavior, population and context. It has been used successfully in a wide variety of fields, such as health (e.g., Hamilton et al., 2020), road traffic safety (Sullman et al., 2018) and educational sciences (e.g., Detroz et al., 2019; Verpoorten et al., 2020). Although TPB has been criticized in papers (e.g., Sniehotta et al., 2014) that were criticized in return (e.g., Ajzen, 2015; Armitage, 2015), one reason for its success lies in its impressive predictive power. In a meta-analysis, Armitage and Conner (2001) showed that, taken together, attitude, subjective norm and perceived behavioral control explained 39% of the variance of intention and 27% of the variance of behavior. Note that, of the three predictors of intention, subjective norm had the weakest but still significant effect.

Building on the TPB, mentoring or not mentoring in HE could be conceived to result from faculty’s intention to mentor. This intention would result from 1) faculty’s *attitude* that comes from beliefs about the consequences of mentoring and its agreeableness, 2) faculty’s *subjective norm*, resulting from their beliefs about who mentors are and who could expect they mentor, and 3) faculty’s *perceived behavioral control* that reflects their beliefs about elements influencing their own ability and autonomy to mentor. This TPB model of mentoring intention shares many common points with the motivational model proposed by Morales et al. (2017). The expected cost and benefits, the dispositional and situational factors of Morales et al.’s model correspond, respectively, to attitudinal beliefs and to those underpinning perceived behavioral control in the TPB. However, two main differences exist. First, Morales et al.’s model includes past behavior and demographic variables as independent factors, while the TPB considers that they are influential through a transversal impact on the beliefs and consequently are not included in the model. Second, subjective norms are absent from Morales et al.’s model, yet meta-analyses of TPB studies showed that they do impact the intention to perform planned behaviors. Consequently, TPB appeared to offer a more complete conceptual model than the motivational one. Another breach in Morales et al. (2017)’s work is that, notwithstanding studies showing the impact of the institutional context on mentors’ experience (Ssemata et al., 2017), it does not take the context into account. As will be shown in the method section, not content with having developed the TPB conceptual framework, its author proposed a methodology for TPB studies that is contextually relevant. Indeed, the beliefs underpinning attitude, subjective norm and PBC are not predefined based on the literature but come from a qualitative preassessment performed on a sample of the population under study.

To the best of our knowledge, the only study that referred to the TPB for studying mentoring issues looked at youth mentoring by freshmen and sophomores (Barnard-Brak et al., 2010). We propose that extending it to freshmen mentoring by faculty in HE would be instructive for researchers as well as mentoring developers. Below, we present the main characteristics of the mentoring program for which we relied on the TPB for studying faculty’s intention to mentor freshmen.

**Mentoring in an interinstitutional and supposedly reluctant context: the case of POLLEM**

In the WBF, HE institutions were grouped in academic hubs on a geographical basis to foster their cooperation in terms of support for academic success, information about studies, training provision and infrastructure sharing. Freshmen failure, dropout and reorientation rates reaching 58% in the WBF in 2013-2014 (ARES, 2014[[1]](#footnote-1)), a wide mentoring program was set up by one of these hubs with the purpose of smoothing students’ transition. Nine institutions joined the program, named POLLEM - an acronym for Pôle académique Liège-Luxembourg Expérience Mentorat (that is, Liège-Luxembourg academic hub mentoring experience).

Implementing this program necessitated the consideration of two important circumstances. The first was that it required nine HE institutions to collaborate. However, HE institutions in general are not designed for collaborating with one another, but are autonomous by tradition and practice (Duffield et al., 2013). To reduce the initial apprehension that collaboration could lead to a restrained consideration of individual partners’ requirements, four actions were taken. First, an evidence-based approach was adopted at every stage of the project, even from before its inception, to detect constants and differences between institutions. Secondly, in line with previous research on collaboration in HE (Duffield et al., 2013), each partner institution was equally represented within the scientific committee which delineated the guidelines of the program and determined its quality. Thirdly, the concrete implementation within an institution was carried out by a referent member of that institution. Building upon previous research about collective projects (Verpoorten et al., 2019), a combination of collective sessions for these referents and individual tutoring by the POLLEM coordinator was adopted. The coordinator made the link between referents and the scientific committee and endorsed transversal tasks, such as literature reviews, giving information to directors, faculty and students, training mentors, structuring research and evaluation. Lastly, given the differences between the institutions in terms of size, localization, public or philosophy, no cooperation would have occurred if they were forced to adopt a standardized project. Consequently, referents were free to adapt mentoring to their institutional specifications regarding mentee and mentor selection, their matching procedure, the basic arrangement of their encounters (their number and timing along the academic year) and the specific research questions being addressed through the evaluative process. The constants between institutions concerned the definition of mentoring as well as the roles to be adopted by the faculty, mainly adapted from Johnson’s functional mentoring competencies (Johnson, 2015).

For faculty, POLLEM mentoring was conceptualized as building a personal, reciprocal and ongoing relationship with officially assigned students, providing support, counseling, reassurance, coaching, challenges, etc., in order to support students’ academic, professional and personal success. It has been shown that mentees value a mentor who recognizes that their studies represent only a portion of their lives, and that their personal circumstances and professional aspirations are inextricably linked (Malen & Brown, 2020). Specifically, faculty were asked, throughout formative sessions, 1) to adopt an empathetic and benevolent attitude, 2) to welcome students at the beginning of the year, 3) to take interest in what students express concerning their studies, professional aspirations and private life, 4) to support and encourage them, 5) to counsel them in a developmental perspective, 6) to deliver cautious feedback, 7) to challenge them, 8) to be role models by showing care, open-mindedness, curiosity, critical thinking and by sharing their own experience of doubts and difficulties while being students, 9) to clarify performance expectations and demystify the system and 10) to foster mentoring constellations within and/or outside the institution (see Johnson, 2015, Chapter 5 for detailed specification of mentoring competences). By this, POLLEM principally mixed what Jacobi (1991) qualified as “academic and social integration” and “social support” models of mentoring.

In addition to collaborative concerns, an important detail of POLLEM was that WBF shares a common culture and traditions with France, where the mere notion of a relationship in education was found to elicit apprehension. This idea was openly criticized in societal debates by those claiming that education was mainly a matter of knowledge transmission and, even more fiercely, by psychoanalysts qualifying relational considerations in education a means to supply teachers’ unconscious needs (Virat, 2016). If these debates concerned school in general, and not HE per se, cultural influences were shown to require consideration in mentoring relationships (Kochan et al., 2013). It was possible that this reluctance has impeded mentoring development, which could explain why mentoring was almost nonexistent in the partner institutions previously. However, even if it was the case, faculty may be publicly but not intrinsically reluctant to build quality relationships with students, which experienced mentors openly qualified to be beneficial for themselves (Johnson, 2015) in benevolent contexts. Virat (2014) found that, while societal objections were blatant in French high schools, teachers admitted privately that they sustained privileged relationships with their students. Moreover, previous research found that relationships with students contributed to job satisfaction in French faculties (Drucker-Godard et al., 2013).

**Research questions and predictions**

In this paper, we relied on the TPB model to address faculty’s intention to participate in the POLLEM program in assessing three research questions.

RQ1: To what extent did faculty intend to mentor freshmen?

Observing that freshmen mentoring was underdeveloped globally (Johnson, 2015) and assuming that the typical French apprehensions about relationships in education (Virat, 2016) could be shared in WBF, we predicted that intention to mentor freshmen would be weak.

RQ2: What were the predictors of faculty’s intention to mentor freshmen?

Following Armitage and Conner (2001), we predicted that attitude, subjective norm and perceived behavioral control would significantly and substantially predict mentoring intention. While these authors found subjective norm to have the weakest predictive power, the infrequency of mentoring within the institutions and French teachers’ private admittance of maintaining privileged relationships (Virat, 2014) led us to predict that the subjective norm would instead be a weak but powerful predictor of mentoring intention.

RQ3: Which beliefs significantly underlie those predictors?

Our prediction was that the elements elicited during the qualitative preassessment would to some extent overlap those found in the literature, but not completely due to contextual variations. More specifically, because relationships were found to be a source of job satisfaction in France (Drucker-Godard et al., 2013) as well as by experienced mentors (Johnson, 2015), we predicted that expectations of forming quality relationships would be reported during the qualitative preassessment and would positively predict attitude. Moreover, we predicted that the most cited difficulties (Ehrich et al., 2004) would be elicited during the qualitative preassessment but that not many of the other barriers found in the US by Law et al. (2019) would be reported here. Finally, because not all predictors documented in the literature attained significance when subject to inferential analyses by Morales et al. (2017), we predicted that, out of the potentially numerous beliefs that could be cited during the qualitative preassessment, only a handful will reach significance once subject to such analyses.

**Methods**

## Participants

The questionnaire was submitted to first-year students’ faculties of the nine HE institutions participating in POLLEM, including a university, six professionally-oriented colleges, an arts college and a social advancement college. We obtained 390 answers, unevenly distributed across institutions due to size differences and because, for proper reasons, some institutions sent the questionnaire to a limited sample while others sent it to all first-year faculty. Consequently, their data were considered together. Participants were free to answer or not answer each question. Of the 340 participants who encoded their gender, 95 were men, 238 women and 7 others. Participants were particularly reluctant to mention their age. A proxy for this could reside in the more readily reported years of teaching experience (N=344), ranging from 0 to 50 years, with a mean of 14.15 years (*SD*=9.35).

**Procedure and instrumentation**

In addition to having developed the conceptual framework of the TPB, its author provided a detailed methodology for TPB studies (Ajzen, 2006). Ajzen recommended firstly to precisely define the behavior under study as well as its time and place. He proposed a set of open questions to address in a preassessment to be done in a sample of the target population, in order to identify beliefs associated to the predictors of intention. The retained beliefs serve to construct a questionnaire in which they are evaluated on pairs of items measuring their strength and their value for participants, such as “I think doing X will have the consequence Y” and “The consequence Y is a good thing”. Both items are then multiplied so that the strength of a belief is weighted by its perceived value. Lastly, Ajzen furnished items measuring the TPB constructs that can be taken verbatim in the questionnaire to study any behavior. An example of items measuring intention is “I intent to do X”. Examples of items measuring cognitive and experiential aspects of attitude are, respectively, “Doing X is beneficial” and “Doing X is pleasant”. Examples of items measuring descriptive and injunctive aspects of subjective social norm are “Many people do X” and “People who are important to me want me to do X”. Finally, examples of items measuring PBC in terms of perceived capacity and autonomy are “I am confident that I can do X” and “Doing X is up to me”. All research do not strictly fit this methodology, researchers being not necessarily interested in eliciting beliefs or having some reasons to personalize the items measuring the constructs (e. g., Sullman et al., 2018).

In the present study, we scrupulously applied Ajzen’s method. First, we defined the behavior, its time and place as “mentoring freshmen in my institution, in the next academic year”. Second, we performed the qualitative preassessment identifying contextually-relevant attitudinal, normative and PBC beliefs with 25 faculty from the 9 institutions. Beliefs were retained from the content analysis when mentioned twice, which equaled the lowest number of participants from the same institution. This cutoff was selected to make sure that an element that could be pertinent in only one institution would come through in the questionnaire. Table 1 shows the beliefs retained. These were used to create pairs of items measuring their strength and value via Likert scales ranging from 1 to 7. Both items of each pair were then multiplied. Third, two items addressing intention, each aspect of attitude - cognitive attitude and affective attitude, each aspect of the subjective social norm - descriptive norm and injunctive norm, each aspects of the PBC - perceived ability and autonomy, were adapted from Ajzen (2006) to comprise the questionnaire. Finally, we added socio-demographic items asking for participants’ institution, teaching experience, gender and age. The items were encoded in Qualtrics and sent by e-mail to the participants, except in one institution whose faculty participated during a training session.

**Table 1**

*Beliefs related to predictors of freshmen mentoring*

|  |  |
| --- | --- |
| Predictor  | Associated beliefs |
| Attitude |  |
| Cognitive | Mentoring will allow for personalized follow-ups |
| Mentoring will show freshmen that they matter to the institution |
| Mentoring will increase freshmen’s motivation, self-confidence, knowledge of resources, success/graduation, pressure, faculty’s understanding of freshmen |
| Mentoring will reduce freshmen’s bad habits/dropout, autonomy/responsibility, faculty’s objectivity in assessments, equity among mentees (not all mentors are equally good)  |
| Mentors will review their teaching habits |
| Experiential  | Faculty and students will experience quality relationships |
| Faculty will feel empowered, overbooked, overloaded, responsible for mentees’ failure/dropout, a heightened sense of purpose |
| Perceived norm |  |
| Descriptive | Faculty whose character is suitable for accompaniment, those who are motivated will mentor freshmen |
| Senior, junior, jaded/disillusioned faculty will not mentor freshmen |
| InjunctivePerceived behavioral control | Students, directors, some colleagues could expect faculty to mentor freshmen |
| Ability  | Considering mentoring as worthwhile, being open-minded, having a working knowledge of the curricula, not aiming to impose one’s opinion, being trained in accompaniment, having good contact with students (listening/being empathetic) facilitates freshmen mentoring |
| Autonomy | Having the time, teaching mainly freshmen, being supported by the director, teaching small classes, being a full-time faculty in the institution, consideration of mentoring in advancing one’s career, being paid for mentoring hours/having assistants to compensate for teaching time facilitates freshmen mentoring |
| Being on a different wavelength with some students, working in several institutions complicates freshmen mentoring |

*Note:* In order to avoid redundancy, beliefs related to an increase/reduction, to feelings and to facilitation/complications were combined but separated via commas.

**Ethical considerations**

This research received the agreement of the POLLEM scientific committee. Participants were informed that their participation was anonymous and that that they were free to participate or not, as well as to terminate their participation whenever they wanted to and without any justification.

## Statistical approach

SPSS statistical software was used to conduct the analyses, carried out on the maximum amount of available data. A first step consisted in creating the variables of the intention and its predictors from their respective items, which were analyzed for internal consistency via Cronbach alphas or Pearson correlations, depending on their number (4 or 2, respectively). Once these variables were created, in order to test our predictions that intention (RQ1) and subjective norm (RQ2) would be weak, means were compared to scale midpoints using *t*-tests for unique sample. Subsequently, stepwise multiple linear regressions were run to identify significant predictors of intention (RQ2) and their significant underlying beliefs (RQ3).

**Results**

## Internal consistency and variable computation

The Pearson correlation computed for both items measuring intention being significant (*r*(336) = .81, *p* < .001), these were merged into one single “intention” variable. Among the Cronbach alphas computed for the 4 attitudinal (α = .88), the 4 normative (α = .58) and the 4 PBC items (α = .50), only the first one was superior to .70. Consequently, the 4 attitudinal items were merged into a single “attitude” variable, while Pearson correlations were computed for pairs of items measuring descriptive norm (*r*(329) = .15, *p* = .006), injunctive norm (*r*(321) = .62, *p* < .001), perceived ability (*r*(351) = .88, *p* < .001) and perceived autonomy (*r*(337) = .43, *p* < .001). Those being significant, pairs of items were merged to create the corresponding variables.

**Extent of faculty’s intention to mentor freshmen (RQ 1)**

A bilateral *t*-test for unique sample comparing the mean score of intention to the scale midpoint (4) showed that participants did not manifest a firm intention to mentor freshmen in the next academic year (*M* = 3.60, *SD* = 1.77, *t*(346) = –4.21, *p* < .001, [–.59; –.21]).

**Predictors of faculty’s intention to mentor freshmen (RQ 2)**

## A stepwise multiple regression analysis revealed that attitude (β = 0.24, *p* < .001, [.19; .46]), descriptive norm (β = 0.14, *p* < .001, [.09; .30]), injunctive norm (β = 0.36, *p* < .001, [.29; .46]), perceived ability (β = 0.28, *p* < .001, [.20; .41]) and autonomy (β = 0. 13, *p <* .001, [.06; .21]) all significantly predicted intention (Table 2). Partial coefficients of determination indicated that injunctive norm had the highest predictive value. Taken together, these predictors explained 55.3% of the variance of intention (*adjusted-R²* = .553, *F*(5,326) = 82.93, *p* < .001).

Bilateral *t*-tests for unique sample comparing mean scores to scale midpoint (4) showed that attitude and perceived ability were quite positive (*M* = 5.29, *SD* = 1.28, *t*(355) = 18.96, *p* < .001, [1.16; 1.42]; *M* = 5.18, *SD* = 1.63, *t*(353) = 13.64, *p* < .001, [1.01; 1.35], respectively). In contrast, descriptive and injunctive norms (*M* = 3.55, *SD* = 1.25, *t*(340) = –6.59, *p* < .001, [–.58; –.31]; *M* = 3.33, *SD* = 1.71, *t*(340) = –7.22, *p* < .001, [–.85; –.49], respectively) as well as autonomy (*M* = 2.93, *SD* = 1.77, *t*(350) = –11.34, *p* < .001, [–.1.25; –.88]), were relatively weak.

## Beliefs underlying the predictors of intention (RQ3)

## *Beliefs predicting attitude*

## A stepwise multiple regression analysis showed that, considered together, the 20 attitudinal beliefs explained 56.8% of the variance of attitude (*adjusted-R²* = .568, *F*(3,320) = 86.40, *p* < .001; Table 2). Considered individually, 5 out of them attained significance. These were beliefs that mentoring will induce quality relationships (β = 0.26, *p* < .001, [.02; .04]), personalized support (β = 0.34, *p* < .001, [.03; .05]), a review of teaching habits (β = 0.15, *p* < .01, [.01; .03]), a feeling of pride if mentees succeed (β = 0.11, *p* < .05, [.01; .02]) and an impairment of objectivity in assessments (β = –0.09, *p* < .05, [–.04; –.01]).

***Beliefs predicting descriptive norm***

A stepwise multiple regression analysis predicting descriptive norm by its corresponding beliefs did not reach significance.

***Beliefs predicting injunctive norm***

A stepwise multiple regression analysis evidenced that directors’ (β = 0.25, *p* < .001, [.02; .05]), students’ (β = 0.14, *p* < .05, [.01; .04]) and colleagues’ expectations (β = 0.15, *p* < .05, [.01; .04]) significantly predicted injunctive norm. Taken together, these beliefs predicted 20.7% of its variance (*adjusted-R²* = .207, *F*(3,324) = 29.38, *p* <.001; Table 2).

***Beliefs predicting perceived ability***

A stepwise multiple regression analysis showed that, taken together, beliefs associated to perceived ability explained 29.9% of its variance (*adjusted-R²* = .299, *F*(3,328) = 48.08, *p* < .001; Table 2). Individually, 3 out of these beliefs significantly predicted perceived ability, these are: considering mentoring to be worthwhile (β = 0.37, *p* <.001, [.04; .06]), being trained in accompaniment (β = 0.21, *p* < .001, [.02; .04]) and having a working knowledge of the curricula (β = 0.19, *p* < .001, [.01; .04]).

***Beliefs predicting perceived autonomy***

A stepwise multiple regression analysis predicting perceived autonomy by its corresponding beliefs did not reach significance.

**Table 2**

*Stepwise multiple regressions of intention, attitude, injunctive norm and perceived ability on their predictors*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variables | *B* | *SE B* | β | Partial *R²* | *F* | *df* | Adjusted *R²* |
| Intention (N=331) |  |  |  |  | 82.93 | 5, 326 | 0.553\*\*\* |
| Attitude | 0.33 | 0.07 | 0.24\*\*\* | 0.03 |  |  |  |
| Descriptive norm | 0.19 | 0.06 | 0.14\*\*\* | 0.02 |  |  |  |
| Injunctive norm | 0.38 | 0.04 | 0.36\*\*\* | 0.11 |  |  |  |
| Perceived ability | 0.31 | 0.05 | 0.28\*\*\* | 0.04 |  |  |  |
| Autonomy | 0.13 | 0.04 | 0.13\*\*\* | 0.02 |  |  |  |
| Attitude (N=325) |  |  |  |  | 86.40 | 5, 320 | 0.568\*\*\* |
| Quality relationship | 0.03 | 0.01 | 0. 26\*\*\* | 0.07 |  |  |  |
| Personalized support | 0.04 | 0.01 | 0.34\*\*\* | 0.01 |  |  |  |
| Review teaching habits | 0.02 | 0.01 | 0.15\*\* | 0.01 |  |  |  |
| Feeling proud if mentees succeed | 0.01 | 0.01 | 0.11\* | 0.01 |  |  |  |
| Impaired objectivity in assessments | –0.02 | 0.01 | –0.09\* | 0.03 |  |  |  |
| Injunctive Norm (N=327) |  |  |  |  | 29.38 | 3, 324 | 0.207\*\*\* |
| Directors | 0.03 | 0.01 | 0.25\*\*\* | 0.03 |  |  |  |
| Students | 0.02 | 0.01 | 0.14\* | 0.01 |  |  |  |
| Other faculty | 0.02 | 0.01 | 0.15\* | 0.01 |  |  |  |
| Perceived ability (N=331) |  |  |  |  | 48.08 | 3, 328 | 0.299\*\*\* |
| Considering mentoring as worthwhile | 0.05 | 0.01 | 0.37\*\*\* | 0.12 |  |  |  |
| Being trained in accompaniment | 0.03 | 0.01 | 0.21\*\*\* | 0.04 |  |  |  |
| Having a working knowledge of the curricula | 0.03 | 0.01 | 0.19\*\*\* | 0.03 |  |  |  |

Note: This table presents the last models retained by the analyses.

\* (*P*<.05), \*\*(*P*<.01), \*\*\* (*P*<.001)

## Discussion

The present study investigated faculty’s intention to mentor freshmen, its predictors, as well as their underlying beliefs in an interinstitutional and supposedly reluctant context, through the perspective of the Theory of Planned Behavior. This approach is innovative in proposing a conceptual framework for mentoring prediction coupled with a methodology that combines a qualitative contextually-relevant preassessment and quantitative measures permitting inferential analyses. The choices made bring the research on mentoring forward by going beyond previous research mainly focused on qualitative data (e.g. Ehrich et al., 2004, Law et al., 2019) and research bringing modelled quantitative measures but lacking enough consideration for contextual variables (Morale et al., 2017), despite studies underlining its influence on mentors’ experience (Ssemata et al., 2017).

The first research question aimed to identify to what extent respondents intended to mentor freshmen. Consistent with our prediction based on the observed underrepresentation of freshmen mentoring (Johnson, 2015) and the French open reluctance towards sustained relationships in education (Virat, 2016), faculty’s intention to participate in POLLEM was weak.

The second research question addressed the predictors of faculty’s intention to mentor freshmen. Confirming our prediction based on Armitage and Conner (2001)’s similar findings, each predictor of intention taken up by the TPB reached significance and their collective predictive power was huge, attaining more than half the variance of faculty’s intention to mentor. In other words, respondents’ evaluation of mentoring, their representations of who mentors are and who would want them to mentor as well as their perceived ability and autonomy, were decisive for intending to mentor freshmen. Moreover, contrary to Armitage and Conner (2001) but in line with our prediction based on Virat (2014)’s evidence that French teachers admit having sustained relationships when interviewed in private but are reticent to do so openly, injunctive norm or others’ expectations, whose score was weak, was the most powerful predictor of intention.

The third research question aimed to determine which beliefs underlie the predictors of intention. Concerning attitudinal beliefs, results confirmed our prediction based on experienced mentors’ reports of enjoying quality relationships with mentees (Johnson, 2015) and research showing that relationships predict French faculty’s job satisfaction (Drucker-Godard et al., 2013), that the expectation of creating quality relationships would foster a positive attitude about mentoring. Additionally, beliefs about personal accompaniment, the review of teaching habits and feelings of pride if mentees succeed, improved respondents’ attitude, which conversely was negatively influenced by respondents’ beliefs about impaired objectivity in assessments. Concerning normative beliefs, directors’, students’ and colleagues’ expectations were found to predict injunctive norm. Of those normative referents, directors were the most influential. As predicted, the control beliefs elicited in the qualitative preassessment did not fully match the barriers observed in other contexts. Only 3 out of the 43 retained beliefs perfectly matched the 14 barriers found in the US by Law et al. (2019), i.e., demands on time, training and promotion, the two first counting amongst the most frequently cited difficulties revealed by Ehrich et al. (2004). Interestingly, only one of these beliefs reached significance in predicting perceived behavioral control, that is, professional expertise or being trained in accompaniment. This was also the case for beliefs about knowledge of curricula and the consideration of mentoring as worthwhile. None of the beliefs about the descriptive norm and perceived autonomy reached significance out of the inferential analyses.

**Contributions to research**

The contributions of this study are multiple. Firstly, for faculty’s barriers to mentoring that are found in the literature, the small overlap between those recently evidenced by Law et al. (2019) in the US and those qualitatively elicited here reinforced the recommendation of considering contextual (Ssemata et al., 2017) and cultural (Kochan et al., 2013) specificities when studying and developing mentoring. Secondly, by showing that each predictor of intention taken up by the TPB contributed to predicting respondents’ intention to mentor freshmen and that their predictive power was important, this study highlighted that the TPB represents an extended useful conceptual framework to understand faculty’s mentoring intention. Thirdly, to the best of our knowledge, normative factors were until now underrepresented in studies investigating levers and barriers to mentoring. Nonetheless, their impact was found to be significant and important, especially when it concerned others’ expectations. This should not be limited to the POLLEM context, as Barnard-Brak et al. (2010), who applied the TPB to youth mentoring by students, also found that norms were significant predictors. This study moreover confirms the influence of principals highlighted by previous research showing the catalyzing power of their engagement for implementing innovations in HE (Laurijssen et al., 2009). Finally, only some of the barriers most frequently cited in the literature, that were also elicited here, reached significance in predicting the determinants of intention. This could be due to contextual specificities, alternatively it could indicate that the frequency to which a factor was cited does not warrant its significance and advocates for a reliance on inferential approaches, such as the one offered by the TPB, to attain a deeper understanding of what factors *significantly* impact faculty’s willingness to mentor.

**Practical implications**

From a practical perspective, the present study evidenced elements likely to favor the development of POLLEM from its very beginnings. We were right in foreseeing faculty’s reticence. Identifying the predictors of their intention to mentor amounted to identifying *which* levers were able to boost it, and determining their underlying beliefs amounted to a determination of *how* to trigger them. Consequently, the results guided the framing of communications, as well as interventions adapted to the context of the partner institutions. While being intrinsically context-dependent, we briefly describe them as they could be helpful to mentoring developers that are confronted with similar apprehensions.

Favoring a positive evaluation orattitudeabout freshmen mentoring required an attempt to reduce/reinforce beliefs found to impact it negatively/positively. During the evaluation of the POLLEM program after the first experimental year, mentors were questioned about each belief that predicts attitude. Considering the impact that vivid testimonies can have on opinions (e.g., Itzchakov et al., 2020), these were widely distributed to the education community once available, as were filmed interviews of mentors and mentees sharing their benefits from the experience. A visual summarizing how mentees and mentors appreciated the experience was also dedicated to teachers. A detailed summary of the results considered by section of each institution, by institution and for all institutions taken together was proposed to each section of each institution. To further reduce apprehensions relative to the objectivity of assessments, institutions proposed the support of educational assistance services.

Aiming to enhance others’ expectations or injunctive norm, as positively impacted by directors’, colleagues’ and students’ opinions, three actions were taken. First, we gave particular attention to the communication dedicated to directors, deans and department chairs of the participating institutions, which were encountered individually, in order to create a favorable culture of mentoring. In line with research showing the benefits of directors’ engagement in the implementation of innovation in HE (Laurijssen et al., 2009), they were asked to openly communicate their support for the program. Second, during the evaluation made of the program after one year, mentors and mentees were asked if they considered that mentoring should be more widely proposed, and the highly positive results were disseminated to the community. Third, a colloquium dedicated to mentoring issues, addressed to institutions’ directors and teachers, was programmed. The intervention of a specialist of mentoring as well as of mentors and mentees was expected to spread the idea that more teachers *should* take part to the POLLEM.

In order to improve faculty’s perceived ability to mentor, as positively predicted by one’s valuation of mentoring, knowledge of the curricula and training in accompaniment, we first widely distributed a catch-up folder illustrating how valuable mentoring was for freshmen, mentors and institutions. We also organized informative sessions detailing research on the subject and provided a training program dedicated to mentors. Faculty were additionally informed that they were not expected to know the curricula deeply and were provided with a list of competent advisers to whom students could be redirected, favoring what Johnson (2015) named mentoring constellations.

Finally, despite the absence of significant beliefs serving as guidelines, in order to favor faculty’s impressions that many of them mentor or descriptive norm, which was unsurprisingly low in institutions where virtually no mentoring existed before, we proposed to organize regular interinstitutional events that would highlight how numerous mentors are and create a network helpful to implementation of innovation in education (Laurijssen et al., 2009). Notably, on-line brown bag sessions were organized for mentors during lunch time.

**Limitations and future directions**

A first limitation of this study was that participants were unequally distributed across the institutions, which prevented a deep study of institutional differences. It is possible that the weakness of perceived autonomy and the failure to predict it, notably by promotion demands, was due to the overrepresentation of professionally-oriented college participants compared with university ones. Another limitation was that, while previous research called for a consideration of mentees’ perspectives (Malen & Brown, 2020), this study said nothing of the other group directly concerned by the program: freshmen. Being confronted with the same faculty context, they could also show some reticence. Consequently, freshmen’s intention to be mentored was the object of a follow-up study using the same method (article in progress). Independent of the POLLEM program, this study called for a deep look at the impact normative factors may have in predicting mentoring, in particular the role directors could play. This could easily be done by gradually manipulating directors’ communicated support for mentoring. Replicating a TPB approach to study mentoring intention and behavior in other contexts, varying the targets of mentoring from freshmen to postgraduate students should enrich knowledge about barriers to mentoring, its variants and constants, as well as the most effective ways to overcome reticence.

## Conclusion

Building upon the case of a wide mentoring program developed in an interinstitutional context, we referred to the Theory of Planned Behavior (Ajzen, 1985, 1991) to study faculty’s intention to mentor freshmen. Despite the broad success of the TPB (Ajzen, 2020), this research was the first to apply it to mentoring in HE. This approach of mentoring prediction extends the one proposed by Morales et al. (2017) by allowing a consideration of contextual specificities and inspecting normative influences. Inferential analyses yielded results that only partially replicated previous qualitative research about barriers to mentoring (e.g. Law et al., 2019) but confirmed calls for a contextually-relevant approach to mentoring research and development (Ssemata et al., 2017). Additionally, they evidenced that normative factors, yet found to be implied in youth mentoring by students (Barnard-Brak, et al., 2010), have an important impact on faculty’s intention to mentor, that should be investigated by further research on mentoring in higher education.

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We have no conflicts of interest to declare.

## References

Ajzen, I. (1985). *From intentions to actions: A theory of planned behavior*. In J. Kuhl and J. Beckmann (Eds.), *Action control: From cognition to behavior*. Berlin, Heidelberg, New York: Springer-Verlag. <https://doi.org/10.1007/978-3-642-69746-3_2>

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Process*, *50*, 179–211. <https://www.dphu.org/uploads/attachements/books/books_4931_0.pdf>

Ajzen, I. (2006). *Constructing a TPB questionnaire: Conceptual and methodological considerations*. https://people.umass.edu/aizen/pdf/tpb.measurement.pdf

Ajzen, I. (2015). The theory of planned behaviour is alive and well, and not ready to retire: A commentary on Sniehotta, Presseau, and Araújo-Soares. *Health Psychology Review*, *9*(2), 131-137. <https://doi.org/10.1080/17437199.2014.883474>

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314-324. <https://doi.org/10.1002/hbe2.195>

Allen, T. D. (2007). Mentoring relationships from the perspective of the mentor. In B. R. Ragins & K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research, and practice* (pp. 123–147). Thousand Oaks: Sage.

Armitage, C. J. (2015). Time to retire the theory of planned behaviour? A commentary on Sniehotta, Presseau and Araújo-Soares. *Health Psychology Review*, *9*(2), 151-155. <https://doi.org/10.1080/17437199.2014.892148>

Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, *40*(4), 471-499. <https://doi.org/10.1348/014466601164939>

Barnard-Brak, L., Burley, H., & Crooks, S. M. (2010). Explaining youth mentoring behavior using a theory of planned behavior perspective. *International Journal of Adolescence and Youth*, *15*(4), 365-379. <https://doi.org/10.1080/02673843.2010.9748040>

Campbell, T. A., & Campbell, D. E. (1997). Faculty/student mentor program: Effects on academic performance and retention. *Research in Higher Education*, *38*(6), 727-742. [https://doi.org/10.1023/A:1024911904627](https://doi.org/10.1023/A%3A1024911904627)

Drucker-Godard, C., Fouque, T., Gollety, M., & Le Flanchec, A. (2013). Le ressenti des enseignants-chercheurs: Un conflit de valeurs. *Gestion et Management Public*, *1*(2), 4-22. <https://doi.org/10.3917/gmp.004.0004>

Duffield, S., Olson, A. & Kerzman, R. (2013). Crossing borders, breaking boundaries: Collaboration among higher education institutions. *Innovation in Higher Education, 38,*237–250. <https://doi.org/10.1007/s10755-012-9238-8>

Ehrich L. C., Hansford, B., & Tennent, L. (2004). Formal mentoring programs in education and other professions: A review of the literature. *Educational Administration Quarterly, 40*(4), 518-540. <https://doi.org/10.1177/0013161X04267118>

Gershenfeld S. A. (2014). Review of undergraduate mentoring programs. *Review of Educational Research, 84* (3),365-391. <https://doi.org/10.3102/0034654313520512>

Hamilton, K., van Dongen, A., & Hagger, M. S. (2020). An extended theory of planned behavior for parent-for-child health behaviors: A meta-analysis. *Health Psychology*, *39*(10), 863. [https://doi.org/10.1037/hea0000940](https://psycnet.apa.org/doi/10.1037/hea0000940)

Itzchakov, G., Amar, M., & Van Harreveld, F. (2020). Don't let the facts ruin a good story: The effect of vivid reviews on attitude ambivalence and its coping mechanisms. *Journal of Experimental Social Psychology*, *88*, 103938. <https://doi.org/10.1016/j.jesp.2019.103938>

Jacobi, M. (1991). Mentoring and undergraduate academic success: A literature review. *Review of Educational Research*, *61*(4), 505-532. <https://doi.org/10.3102/00346543061004505>

Johnson, W. B. (2015). *On being a mentor: A guide for higher education faculty*. Routledge.

Kochan, F., Kent, A. M., & Green, A. M. (2013). Cultural influences on mentoring programs and relationships: a critical review of research. *International Journal of Mentoring and Coaching in Education*. <https://doi.org/10.1108/IJMCE-08-2013-0047>

Laurijssen, C., Gilis, A., Clement, M., Buelens, H., & Huyghe, S. (2009). Leadership pédagogique: Une vision à développer. In D. Bédard & J.P. Béchard (Eds.), *Innover dans l’enseignement supérieur* (pp.93-108). Paris cedex, France: Presses Universitaires de France. <https://doi.org/10.3917/puf.bedar.2009.01.0093>

Law, K. L., Guthrie, D. D. A., Beaver, B. R., Johnson, S. M., Parys, J., & Toms, O. M. (2019). Faculty and staff perceptions of undergraduate mentoring. *Mentoring & Tutoring: Partnership in Learning*, *27*(4), 399-415. <https://doi.org/10.1080/13611267.2019.1649918>

Lunsford, L. G., Crisp, G., Dolan, E. L., & Wuetherick, B. (2017). Mentoring in higher education. *The SAGE handbook of mentoring*, *20* (pp. 316-334).

Malen, B., & Brown, T. M. (2020). What matters to mentees: Centering their voices. *Mentoring & Tutoring: Partnership in Learning, 28*(4), 480-497. <https://doi.org/10.1080/13611267.2020.1793086>

Merga, M. K., Hays, A. M., & Coventry, T. (2020). Nurse managers’ perceptions of barriers to the mentoring of early career nurses. *Mentoring & Tutoring: Partnership in Learning, 28*(1), 1-18. <https://doi.org/10.1080/13611267.2020.1737778>

Morales, D. X., Grineski, S.E., & Collins, T. W. (2017). Faculty motivation to mentor students through undergraduate research programs: A study of enabling and constraining factors. *Research in Higher Education, 58,*520–544. <https://doi.org/10.1007/s11162-016-9435-x>

Nora, A., & Crisp, G. (2007). Mentoring students: conceptualizing and validating the multi-dimensions of a support system. *Journal of College Student Retention: Research, Theory & Practice*, *9*(3), 337-356. <https://doi.org/10.2190/CS.9.3.e>

Sneyers, E., & De Witte, K. (2018). Interventions in higher education and their effect on student success: A meta-analysis. *Educational Review*, *70*(2), 208-228. <https://doi.org/10.1080/00131911.2017.1300874>

Sniehotta, F. F., Presseau, J., & Araújo-Soares, V. (2014). Time to retire the theory of planned behaviour. *Health Psychology Review, 8*(1), 1-7. <https://doi.org/10.1080/17437199.2013.869710>

Ssemata, A. S., Gladding, S., John, C. C., & Kiguli, S. (2017). Developing mentorship in a resource-limited context: A qualitative research study of the experiences and perceptions of the Makerere university student and faculty mentorship program. *BMC Medical Education, 17,*123. <https://doi.org/10.1186/s12909-017-0962-8>

Sullman, M. J. M., Hill, T., & Stephens, A. N. (2018). Predicting intentions to text and call while driving using the theory of planned behaviour. *Transportation Research Part F: Traffic Psychology and Behaviour, 58*, 405-413. <https://doi.org/10.1016/j.trf.2018.05.002>

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, *45*(1), 89-125. <https://doi.org/10.3102/00346543045001089>

van der Zanden, P. J., Denessen, E., Cillessen, A. H., & Meijer, P. C. (2018). Domains and predictors of first-year student success: A systematic review. *Educational Research Review*, *23*, 57-77. <https://doi.org/10.1016/j.edurev.2018.01.001>

van Rooij, E. C. M., Jansen, E. P. W. A., & van de Grift, W. J. C. M. (2018). First-year university students’ academic success: The importance of academic adjustment. *European Journal of Psychology of Education,* 33**,** 749–767. <https://doi.org/10.1007/s10212-017-0347-8>

Virat, M. (2014). Vers une conception de l’élève-sujet: La relation enseignant-élève en dispositif relais. *Éducation et Socialisation*. *Les Cahiers Du CERFEE, 36*. <https://doi.org/10.4000/edso.1010>

Verpoorten, D., Huart, J., Detroz, P., & Jérôme, F. (2020). Blended learning in higher education: Faculty perspective through the lens of the Planned Behaviour Theory. *E-Learning and Digital Education in the Twenty-First Century-Challenges and Prospects*. https://doi.org/ 10.5772/intechopen.95375

Verpoorten, D., Leduc, L., Mohr, A., Marichal, E., Duchâteau, D., & Detroz, P. (2019). Feedback first year: A critical review of the strengths and shortcomings of a collective pedagogical project. In J. Friberg & K. McKinney (Eds.), *Applying the Scholarship of Teaching and Learning Beyond the Individual Classroom* (pp.162-181). Bloomington, USA: Indiana University Press.

Virat, M. (2016). Dimension affective de la relation enseignant-élève avec les adolescents: Revue des études longitudinales et perspective de l’attachement. *Revue de Psychoéducation*, *45*(2), 405-430. <https://doi.org/10.7202/1039055ar>

1. https://www.ares-ac.be/fr/statistiques/indicateurs#01-taux-de-r%C3%A9ussite-de-r%C3%A9orientation-de-redoublement-et-d%E2%80%99abandon-en-1re-ann%C3%A9e-de-bachelier [↑](#footnote-ref-1)