



Initial motivation and drop-out in nursing and business administration programmes

Kjersti Nesje^{1,2} · Jannecke Wiers-Jenssen³

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Abstract

While intrinsic motivation is often seen as the ideal form of motivation for entering higher education, students may also have external motivations related to the life after graduation. There has been limited focus on how different enrolment motivations are related to dropping out of higher education. In this study, we investigated how motivations and dropping out are related in nursing programmes versus business administration programmes. The study demonstrates that type of motivation predicts the risk of dropping out differently for students of the two study programmes. For nursing students, intrinsic motivation reduces the risk of leaving the programme before completion, while for business administration students an instrumental type of motivation related to status and money reduces this. The study nuances the assumption that intrinsic motivation for choosing a study programme is the most favourable form of motivation when it comes to persistence through the programme.

Keywords Business administration students · Nursing student · Motivation · Dropping out · Self-determination theory

Introduction

Dropping out from higher education is a topic which is high on the political agenda in many countries (European Commission 2015). Students not completing the study programme they entered may be seen as a loss for society, the higher education institutions, and the individuals themselves. Hence, it is important to increase the knowledge about why students leave their study programme without completing. Ideally, young people will enter and graduate from a study programme which aligns with their interests, abilities, and expectations. Of course, this is not always the case, and a consequence is that students transfer to another programme or leave higher education altogether.

✉ Kjersti Nesje
kjersti.nesje@oslonh.no

¹ Nordic Institute for Studies in Innovation, Research and Education (NIFU), Oslo, Norway

² Department of Psychology, Oslo New University College, Oslo, Norway

³ Centre for the Study of Professions, Oslo Metropolitan University, Oslo, Norway

Vincent Tinto is the classical reference in research on dropping out from higher education. The *Tinto model* rests on the assumption that it is lack of social and academic integration that makes students leave their institution (Tinto, 1975, 1987). The model is mainly concerned with institutional factors, but also takes into consideration how personal characteristics can affect the decision to quit. Originally, there was less focus on individual dispositions, but during the last few decades, the importance of motivational aspects for persistence and dropping out has been acknowledged (Demetriou & Schmitz-Sciborski, 2011; Tinto, 2017).

In this paper we investigate if and how different motivations for enrolling in a study programme among nursing students and business administration students predicts the probability of leaving the programme before completion. Nursing students and business administration students are interesting to compare because both groups of students often report extrinsic motivations for entering the study programme, but the *content* of these motivations are usually very different. From what is known from the motivational literature this can imply different relations to dropping out, an aspect rarely handled in the drop out literature (e.g. Allen & Nora, 1995; Cabrera et al., 1992).

We used survey data measuring motivation for enrolment retrospectively, 2–3 months after entering the study programme, combined with register data containing information on the actual behaviour of those dropping out. We define dropping out as not having completed a three-year bachelor's programme within six years from time of first enrolment. Hence, we focus on dropping out from programmes, not from an institution or the system. By comparing two bachelor's programmes, we can examine if motivational factors influence dropping out differently depending on study programme.

Motivation and dropping out

In Tinto's (1987) student departure model, motivation is closely related to the concept of goal commitment. Students enter higher education with different strength of goal commitment, defined as the importance of attaining a degree. Their level of goal commitment will shape how they interact with, integrate to the educational program, and predict their probability of graduating. Goal is a central aspect of motivation, giving meaning and direction to behavior (e.g. Deci & Ryan, 2000). In Tinto's model goal commitment is understood as the *strength* or *intensity* of the desire to attain a higher education degree, often measured as the importance and certainty of graduating (Allen & Nora, 1995; Cabrera et al., 1992). Operationalizing goal commitment according to this understanding has yield weak associations with retention (Schuster & King, 2022). In 2015, Tinto presented an updated model of student motivation, discussing how students' goals not only can vary in intensity, but also content. Not going into detail on the theoretical mechanisms explaining how goal content might influence completion, he pointed to how differentiating between holding extrinsic versus intrinsic goals could have implication for persistence.

Intrinsic and extrinsic motivation

Categorizing motivation as either intrinsic or extrinsic is a well-established distinction (e.g. Deci & Ryan, 2000). Intrinsic motivation is defined as an activity conducted because it gives pleasure and satisfaction while extrinsic motivation is defined as being moved by goals external to the behaviour itself. While when intrinsically motivated a

behaviour is conducted because it is inherently interesting, this is not the case when being extrinsically motivated. Intrinsic motivation is seen as a motivational “gold standard” because it is strongly related to favourable outcomes such as persistence, learning, and well-being (Janke, 2020; Kehm et al., 2019), while especially some forms of extrinsic motivation can be maladaptive (Deci & Ryan, 2000).

In the literature on drop out, extrinsic motivation has often been conceptualised as a uniform concept, simply operationalised as non-intrinsic (e.g. Kehm et al., 2019). However, one of the important theoretical and empirical enlightenments of motivation research in recent years is that extrinsic motivation is multifaceted, potentially having both advantageous and disadvantageous attributes (Deci & Ryan, 2000). An important underlying dimension in this case relates to whether the external goals one sets are *inherently* satisfying. Kasser and Ryan (1996) and Kasser et al. (2014) show that people with life goals and values strongly related to financial success, attractiveness, and popularity have relatively low levels of well-being, while people that set goals such as self-acceptance, affiliation and community have higher levels of well-being. The reason the latter goals are more satisfying compared to money or status is because they contribute to fulfilling psychological needs. Human beings have three basic psychological needs that must be satisfied to function optimally: the need to feel competent (e.g., mastery), the need to feel relatedness (e.g., connected, cared for, and caring for others), and the need for autonomy (e.g., to feel self-endorsed) (Deci & Ryan, 2000). Setting goals based on financial success, status or fame does not, *in itself*, contribute to fulfilling these needs (Kasser & Ryan, 1996). These are extrinsic goals. On the other hand, acting prosocially has been shown to strengthen the feeling of being related to other individuals, and is associated with satisfying the need of relatedness (Pavey et al., 2011). Thus, prosocial life goals are intrinsic in nature. In sum a person that is extrinsically motivated to perform a behaviour, could be motivated by either intrinsic or extrinsic life goals. Being motivated by intrinsic life goals is associated with positive outcome such as well-being, persistence, and learning, while this is not the case with extrinsic life goals (Kasse & Ryan 1996; Vansteenkiste et al., 2004).

The difference between intrinsic and extrinsic life goals correspond to the difference between the reported motives of nursing students and business administration students in their choice of study programme. Studies looking into nurses’ reasons for entering the field and profession often conceptualise their motivation along three main dimensions: Prosocial reasons (often labelled altruistic reasons), intrinsic reasons (commonly operationalised as interest in the field of study) (Miers et al., 2007) and instrumental reasons (job security and ability to combine work and family) (De Cooman et al., 2008). Prosocial reasons are repeatedly shown to be the most common motive for choosing nursing (De Cooman et al., 2008; Eley et al., 2012; Messineo et al., 2019; Newton et al., 2009). At the same time, some studies indicate that instrumental reasons seem to be more important among younger generations of nursing students (McCabe et al., 2005; Rogstad et al., 2004).

Among business administration students’ goals, such as aspiring to achieving financial success, an appealing image and being admired by others (Sheldon & Corcoran, 2019), as well as professional advancement (Basham & Buchanan 2009) and power (Maliszewski et al., 2014) are more often reported, compared to other educational groups. As stated above, having strong external motives and goals related to financial success and status, can be counterproductive. In support of this, Arnold and Rowaan (2014) found that intrinsic study motivation was related to study progression (measured as credits), and higher expectations of academic performance during the first year, while instrumental motivation, relating to status and money was not.

One of the few studies that have looked at the motivations for enrolling in higher education and dropping out found that extrinsic motivation for choosing a major was positively related to thoughts of dropping out (Janke, 2020). Although an interesting study, Janke did not investigate whether content of external motive was related to actual dropping out. Even though nursing students and business administration students often report extrinsic motivation for choosing their education, the content of these motives varies. A valid question is whether these different motives will relate differently to drop out. In sum, a more nuanced perspective on motivation and dropping out is called for.

Research aims

The aim of the present paper is two-fold. Firstly, we wish to examine the underlying factor structure of the motives given for entering a nursing programme compared to entering a business administration programme. The first goal is to investigate whether different motivational factor structures emerge among neophyte students from these two programmes. More specifically, we expect that a distinct factor relating to items measuring status and money will emerge among business administration students. This assumption is based on previous research showing that motivation relating to status and money are important reasons for choosing the programme among business administration students (Basham & Buchanan 2009; Sheldon & Corcoran, 2019).

Our second goal is to study how the motives given shortly after enrolment relates to dropping out from the programme after six years. As studies have repeatedly shown the beneficial effect of having intrinsic motivation, we expect there to be a negative association between intrinsic motivation and dropping out from the programme. Among nursing students, we expect there to be a particular advantage in having prosocial motivation. These motives are both in alignment with the values of the future profession, and an expression of desiring to contribute the community (Kasser & Ryan, 1993), which is understood as a goal related to fulfilling basic needs.

On the other hand, for business administration students, we expect that motives relating to status and high income will either be unrelated or will lead to higher levels of dropping out. As illustrated above, motives relating to money and status are frequently reported as important for students in business administration. The postulates of self-determination theory state that striving for a high income and status in the worst-case scenario could have negative implications for individuals' well-being and persistence, as reaching these goals in themselves will not contribute to fulfilling basic psychological needs (Kasser et al., 2014). Few studies have investigated if the type of motive for entering a programme is a predictor of dropping out from the study programme, hence this paper brings a new dimension into the field.

The Norwegian context

The Norwegian higher education system has traditionally been quite flexible and transferring from one study programme or institution to another has been common (Høgestøl et al., 2017), though less so in professional study programmes than for generic ones (Aamodt & Hovdhauge, 2011; Statistics Norway, 2022). This is partly due to the funding system. Most higher education institutions are public, and do not charge tuition fees. Students are eligible for subsidised public loans and grants to cover living expenses for up to eight years of studying. The moderate

financial investments required, and the flexibility of the higher education system, contribute to making transfer to a different programme more viable. Among nursing students starting bachelor programmes in 2013, 8 per cent transferred to another programme and 14 per cent left higher education by 2018. In bachelor programmes in business and administration 15 per cent transferred and 30 per cent left higher education in the same period (Statistics Norway, 2022).

Methods

We used a unique dataset, combining information from a survey with information retrieved from registers. The *StudData* survey is conducted among first year students in a range of professional study programmes from three higher education institutions in Norway. These institutions are public universities of applied sciences situated in urban areas and mainly offering first cycle professional programmes. They were included in the study chosen due to having a substantial number of students in relevant fields. The students were invited to take part and respond to the survey during a lecture in October and November 2012, approximately 2–3 months after enrolment. Data from administration registers were linked to the survey, providing information about whether students completed the programme within six years of starting. The register data refer to the situation in 2018.

Sample

The response rate of the survey was 52 per cent for nursing students and 48 per cent for students in business administration. Our data material includes 512 nursing students and 118 students in business administration. The questionnaire covered a range of topics, such as motivation for entering the study programme, study expectations and future career.

Measures

Dropping out from the programme

Dropping out is a dichotomous variable, operationalised as not completing the study programme within six years after entering the program, with a value of 1 indicating dropping out of the programme, while 0 indicates completion. According to Nedregård and Abrahamsen (2018) most completers of a three-year professional bachelor's degree did so within four years. However, we do not know whether the individuals within our definition of dropping out transferred to another study programme, left higher education all together, or were on a long period of leave. Transferring to the same type of study programme in a different higher education institution was not counted as dropping out.

Motivation for entering study programme

The survey included two motivational indexes, measuring reasons for entering the programme. The indexes are typical of how motives for entering higher education have been measured in other studies (e.g. Janke, 2020). A principal component analysis was conducted to investigate whether different factor structures emerged between nursing students and business administration students (see Appendix A.1 and A.2). Even though we can assume that

different forms of motivation are theoretically independent, it is unlikely to not observe some correlation empirically. According to Tabachnick and Fidell (2015), correlation below 0.32 is acceptable when conducting varimax rotation. Ideally Cronbach's alpha should exceed .7, however as the Cronbach alpha is sensitive of number of items, this will affect the Cronbach's alpha. Briggs and Cheek (1986) recommend investigating the inter-item correlation, correlations between .2 and .4 is optimal. The inter-items correlations falls within this range. The PCA conveyed three motivational factors for nursing students, and four motivational factors for business administration students, in which three of these were identical to that of nursing students.

Questionnaire items "*interest in subject*", "*Interesting to study*", "*Good in school*", "*Fits with abilities*" constituted what we labelled intrinsic motivation, as intrinsic motivation is defined as conducting an activity out of interest.

Questionnaire items "*Opportunity to help*" "*Useful job for society*" "*Contact with other people*" is indicative of *prosocial motivation*. Although an extrinsic form of motivation, (due to it being associated with goals external to studying), the underlying goals can be defined as intrinsic, as they relate to affiliation and community, which could contribute to satisfying basic psychological needs.

Questionnaire items "*Plenty of time off*" "*Flexible working hours*" "*Opportunity to work part time*" is labelled instrumental motivation, as the goals are extrinsic, not in themselves relating to fulfilling basic psychological need. The intrinsic, prosocial and instrumental motivational variables are similar for both nursing students and business administration students.

For business administrations students the fourth factor emerging was labelled status motivation comprised of questionnaire items "*High regard*", "*high status jobs*" "*Sensible choice*" "*High income*". Status motivation is extrinsic goals, as they do not in themselves relate to fulfilling basic psychological needs.

The items were answered on a five-point likert scale. We reversed the scales of the indexes in the analysis so that a high score equalled strong motivation. For the logistic regression analysis, the motivational variables were standardized.

Control variables

We controlled for gender, age, and grades from upper secondary school. Previous studies have shown that students with lower socio-economic backgrounds are more likely to drop out of higher education (OECD, 2015), as well as men (Kehm et al., 2019). This is also seen in Norway; findings indicate that social origin is more important in generic university programmes than in shorter professional programmes (Hovdhaugen & Vibe, 2014). A variable indicating the educational level of the parent with the highest level of education was computed, based on four categories: no higher education, higher education of shorter duration (bachelor level), higher education of longer duration (master level) and education unknown.

Grades from upper secondary school is related to non-completion, lower grades leading to a higher probability of dropping out (Kehm et al., 2019). We received average grade from upper secondary school from the Norwegian administrative register "FS—the common student system" (Felles studentsystem, 2021). The Norwegian grading system runs from 1 to 6, with 6 being the highest and 2 the lowest passing grade. Because the average grade from upper secondary school is higher for the business administration

Table 1 Descriptive statistics of control variables, dependent variable and independent variables

Variable	Nursing students		Students in business administration		
	%	<i>n</i>	%	<i>n</i>	
Gender					
Female	85%	433	53%	63	
Age groups					
20 years or younger	44%	218	60%	68	
21–23	30%	149	20%	23	
24 years or older	27%	132	20%	23	
Grade points					
<i>Nursing students</i>					
<i>Students in Business Administration</i>					
3.56 or lower	4.39 or lower	20%	104	23%	27
3.57–3.91	4.4–4.54	20%	101	22%	26
2.92–4.33	4.55–4.72	21%	108	21%	25
4.35 or higher	4.73 or higher	21%	105	21%	25
No grades reported	No grades reported	18%	94	13%	15
Parents' highest education					
No higher education		35%	177	25%	30
Higher education of shorter duration		37%	187	36%	43
Higher education of longer duration		19%	95	27%	32
Education unknown		10%	53	11%	13
Dropping out from programme		15%	77	51%	60
		<i>Mean (SD)</i>	<i>n</i>	<i>Mean (SD)</i>	<i>n</i>
Prosocial motivation		4,59** (0,47)	503	3,57** (0,79)	117
Intrinsic motivation		4,04** (0,61)	510	3,88** (0,65)	118
Instrumental motivation		3,30** (,76)	503	3,07** (0,78)	117
Status motivation				3,88 (0,67)	118

** $p < .01$, Nursing $n = 512$, BA $n = 118$

students compared to nursing students, grade averages were categorized as quartiles: For nursing students these were grade averages of 3.56 or lower, grade averages of 3.57 to 3.91, grade averages of 3.92 to 4.33 and grade averages of 4.33 or higher. Information on grades was missing for approximately 18 per cent of the sample,¹ so a no grade category was computed for missing data for both student groups. For business administration students the categories were grade averages of 4.39 or lower, grade averages of 4.4 to 4.54, grade averages 4.55 to 4.72, and grade averages of 4.73 and higher. 13 percent of the sample had no registered average grades.

Age was entered as a standardized variable, where 0 is mean age.

¹ Grades are missing due to the administrative registry data not containing data for individuals graduating from upper secondary outside Norway, and individuals graduating prior to 2000.

Results

Eighty-five per cent of the nursing students and 53 per cent of the business administration students were female. The nursing students were younger (22 years) than the students in business administration (23 years). Furthermore, business administration students had higher average grades from upper secondary school. See Table 1.

The dropout rates for the two programmes revealed that business administration students leave the programme more often than the nursing students. While 15 per cent of students entering nursing programmes left before graduating, 51 per cent of students in business administration did the same.

Comparison of motivational scales scores

Table 1 (see above) shows the scores of the sum scales. A high value equals strong motivation. Nursing students emphasised both prosocial and intrinsic motives for entering the programme, with a mean of 4.59 and 4.04 respectively. Choosing the programme for instrumental reasons had an average score of 3.3, indicating that this was not the dominating motive for choosing the programme.

As presumed, there was a significant difference in reported prosocial motivation among nursing students and business administration students, with an average of 3.57 for business administration students, Table 1. Business administration students also had a significantly lower mean, 3.88, on the intrinsic motivation scale compared to nursing students. Furthermore, status motivation seemed to be an equally important reasons for choosing the business administration programme, as intrinsic motivation, both averaging to 3.88. As for nursing students, instrumental motivation was the least important motive among business administration students with a mean of 3.07.

Predictors of dropout

To investigate whether motivation for entering the study programme was related to persisting or leaving the programme, logistic regression models were conducted separately estimated for nursing students and business administration students.² The dichotomous 'dropping out' variable was entered as the dependent variable. Gender, age, grades from upper secondary school and parents' educational level were entered as control variables as these has been shown to be related to persistence in earlier studies (cf. the methods section). The motivation variables were standardized (mean of zero, standard deviation of one) and entered as independent variables.

For the nursing students', gender was significant predictor of dropping out: female nursing students had a lower probability of dropping out compared to male nursing students. Students with the lowest grades from upper secondary school had a higher probability of dropping out compared to students with the highest grades. Unlike our hypothesis, prosocial motivation was not a significant predictor of dropping out among nursing students. However, both intrinsic motivation and instrumental motivation were significant predictors of dropping out. Individuals with stronger intrinsic motivation were *less* likely to drop out, while students with stronger instrumental motivation were *more* likely to drop out.

² Regression models with robust standard error were run for robustness test, conveying the same results.

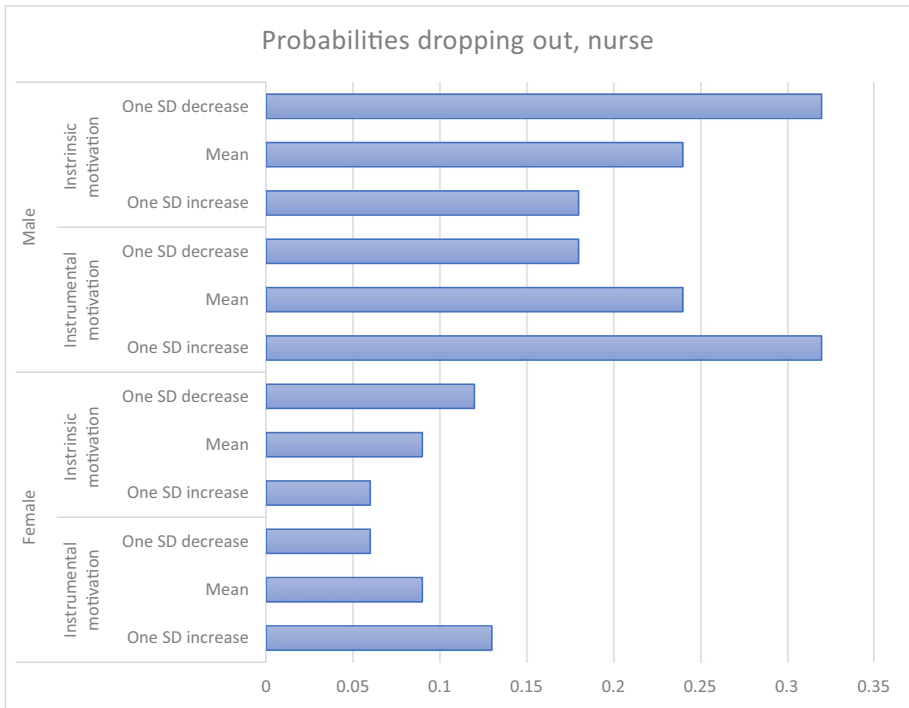


Fig. 1 Estimated probabilities of dropping out among nursing students, by instrumental motivation and intrinsic motivation. Probabilities were estimated from the coefficients in Table 2

Table 2 Logistic regression of dropping out from programme for nursing students

	B	OR	95% CI	
			Lower	Upper
Male	1,195**	3.302	1.629	6.695
Age	-0.279	0.756	0.528	1.082
Grade points 3,56 or lower	0,783*	2.188	0.999	4.794
Grade points 3.57–3.91	-0.291	0.747	0.308	1.812
Grade points 3.92—4.33	-0.653	0.521	0.200	1.353
No grades	0.611	1.842	0.679	4.996
No higher education	0.424	1.527	0.821	2.842
Higher education of longer duration	-0.477	0.621	0.267	1.442
Education unknown	0.263	1.301	0.494	3.429
Prosocial motivation	0.134	1.143	0.761	1.717
Internal motivation	-0,369**	0.691	0.529	0.904
Instrumental motivation	0,394**	1.483	1.123	1.958
Constant	-2.328	0.097		
Nagelkerke R2	0.152			

Reference groups female, age at mean, average grade points 4,35 or higher, parents with short higher education, motivational variables at mean

* $p < .05$, ** $p < .01$

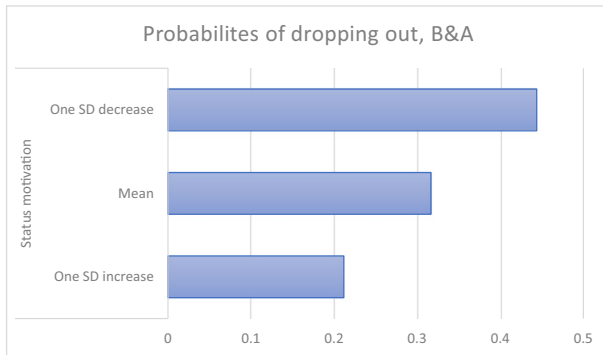


Fig. 2 Estimated probabilities of dropping out among business and administration students, by status motivation. Probabilities were estimated from the coefficients in Table 3

Table 3 Logistic regression of dropping out from programme for Business Administration students

	B	OR	95% CI	
			Lower	Upper
Male	0.606	1.833	0.766	4.384
Age	-0.023	0.977	0.505	1.893
Grade points 4.39 or lower	0.644	1.903	0.563	6.435
Grade points 4.4—4.54	1.104	3.017	0.852	10.691
Grade points 4.55—4.72	0.266	1.305	0.384	4.430
No grades	1.929	6.881	0.809	58.499
No higher education	0.023	1.023	0.352	2.977
Higher education of longer duration	-0.201	0.818	0.295	2.266
Education unknown	-0.825	0.438	0.089	2.151
Internal motivation	-0.007	0.993	0.666	1.483
External status motivation	-0.545**	0.580	0.372	0.904
Instrumental motivation	0.272	1.313	0.846	2.038
Prosocial motivation	-0.070	0.932	0.629	1.381
Constant	-0.770	0.463		
Nagelkerke R2	0.169			

Reference groups female, age at mean, average grade points 4,73 or higher, parents with short higher education, motivational variables at mean

* $p < .05$, ** $p < .01$

Among the business administration students, only status motivation was a significant predictor of dropping out. The association was negative, meaning that stronger levels of status motivation was associated with lower probability of dropping out.

To make the estimates more interpretable, predicted probabilities of dropping out were computed for different levels of motivation, Figs. 1 and 2. The difference in dropping out based on motivation was modest among female nursing students, Fig. 1. Those reporting higher levels of instrumental motivation had 7 percentage points higher probability of dropping out, compared

to those that reported lower instrumental motivation, everything else being equal. Similarly, female nursing students with lower intrinsic motivation had 6 percentage points higher probability of dropping out, compared to students with higher intrinsic motivation. Motivation had a greater impact on the probability of dropping out among male nursing students. Male nursing students with high intrinsic motivation had an 18 percent probability of dropping out, compared to 32 percent of male nursing students with lower intrinsic motivation. The difference in probability was the same for instrumental motivation: male nursing students with low instrumental motivation had an 18 percent probability of dropping out, compared to a 32 percent probability of dropping out among male nursing students with high instrumental motivation. Among business administration students, the difference in probability of dropping out was quite high. Students with higher status motivation had a 21 percent probability of dropping out, compared to 44 percent probability among those with lower status motivation.

Discussion

The results show that there are differences in motivational structures and association between motivation and dropping out of the programme between the two student groups.

Among nursing students, three underlying motivational dimensions were found, which reflected internal motivation for study, prosocial motivation, and instrumental motivation. This is in line with a motivational structure commonly found in studies of nursing students and nursing professionals (De Cooman et al., 2008). A core difference between intrinsic motivation and the two other forms of motivation is that the first is related to studying, while the latter two are related to reaching goals related to working. In support of previous research, prosocial motivation was the strongest motive for choosing nursing education, but their level of intrinsic motivation was also high, and significantly higher than among business administration students, while instrumental reasons were the least common motive. For the nursing students, intrinsic motivation buffered against non-completion. Contrary to what we hypothesised; prosocial motivation was not a significant predictor of programme dropout. The high reported mean of prosocial motivation could indicate that this type of motivation is seen as a prerequisite for choosing nursing. At the same time, according to our study, this does not imply that all students necessarily find the nursing education *interesting*, or the preferred way of getting their prosocial motivation expressed, as signified by the relationship between intrinsic motivation and non-completion.

Previous research has indicated that the younger generation of nursing students emphasised instrumental reasons such as job security to a greater extent than older cohorts (Kukkonen et al., 2016; McCabe et al., 2005), while there is a decrease in the emphasis on caring values among younger generations (Johnson et al., 2007; Tveit, 2008). In part, this is explained by the massification of higher education, resulting in a more diverse nursing student population with broader reasons. Some are concerned that this could result in recruiting nurses who do not have the same commitment and engagement to care work (Catlett & Lovan, 2011; Rogstad et al., 2004). Based on the results from our study, it does not seem that instrumental reasons override prosocial reasons for the nursing students, as their levels of prosocial motives for choosing the programme is very high. The positive association between instrumental reasons and non-completion also show that students with stronger instrumental reasons have a higher tendency to self-select out of the programme, especially among male nursing students. Instead of worrying about the levels of altruistic values among nursing students, our study suggests that one should focus on how nursing students intrinsic motivation can be nurtured

throughout the programme. Seeing nursing as interesting, as corresponding to one's abilities, will heighten their chances of completing and could also heighten their engagement when they are employed. As male nursing students had a much higher drop out rate compared to female nursing students, different levels of motivation amounted to relatively large differences in probabilities of dropping out. Thus, tailoring interventions to foster male students' intrinsic motivation could potentially be effective.

For the business administration students, four motivational constructs emerged. Prosocial, intrinsic, and instrumental motivation had identical structure among business administration students and nursing students, while an additional fourth factor which we labelled status motivation appeared. Intrinsic motivation and status motivation seemed to be equally important reasons for choosing the study programme. Interestingly, an opposite pattern applied for the relation between motivation and dropping out for business administration students, compared to nursing students. Intrinsic motivation was not a significant predictor of dropping out, while status motivation was, but in the opposite direction from that presumed; higher levels of status motivation buffered against dropping out. Status motivation also had a large impact on dropping out, with a 23 percentage point difference between those with high and low status motivation.

At first glance, the negative association between status motivation and dropping out is counterintuitive and seems to contradict both what motivational theories predict and empirical studies showing that a focus on income and status is unrelated to study progression (Arnold & Rowaan, 2014). It seems that our results are more in line with Sheldon and Corcoran (2019), which shows that even though business administration students reported external career motives for choosing the programme, their future goals were as intrinsic as other students' goals. Their career motives could therefore be seen as a steppingstone to future internal rewards. A similar mechanism might apply to the students in our study. High income and status could be perceived as a signal of reaching a future goal related to succeeding in work life. In turn, succeeding requires competence and mastery, one of the basic psychological needs leading individuals to progress (Deci & Ryan, 2000; Kasser et al., 2014). Thus, instead of status and income being the goal, it is an indication of being competent and mastering one's future work domain. This could also explain why intrinsic motivation did not seem to buffer against dropping out: Progressing through the programme is related to a future goal, which crudely put, makes intrinsic motivation for *studying* irrelevant, at least for dropping out.

Practical implications

Students' motivation for entering a programme can predict if they will complete the programme or not. This information could potentially be applied in admission screening processes. However, in a Norwegian setting, this is not applicable as admission to higher education is based on grades from upper secondary education, rather than tests, interviews, or application letters. The insight that the association between motivation and dropping out vary between study programmes is nevertheless relevant for prospective students, career counsellors giving advice on educational choices, as well as for educators, that may take this into consideration in their teaching and when composing curriculums. For example, the awareness that external motivation which on the surface seems materialistic, not necessarily is a risk factor, nuances the impression left by research on motivation in the educational domain. Here, external motivation is often presented as less favourable compared to internal motivation. In addition to this, there seems to be a notion that as long as prospective nurses have a caring disposition, they will fit the profession (Catlett & Lovan, 2011). Our study illustrates that this has to be coupled with interest.

Limitations and future research

Enrolment motivation was measured retrospectively, 2–3 months after entering the programme. This means that students already did have some experience with the study programme, which potentially could affect how they remember and report their motivation for choosing the program. If there is a systematic difference in how students' enrolment motivations are affected by the first two to three months of studying, this could influence the association between motivation and dropping out of the programme. Although we do not have any reason to believe that this effect is systematic, the only way to be sure is to measure enrolment motivation prior to students starting the programme. Future studies should bear this in mind. Due to the relatively low number of cases in the drop out category, we have not differentiated between students who have left higher education and those that have transferred to a different programme, though enrolment motivation may predict these two outcomes differently. This study should therefore be seen as an initial investigating of the relationship between enrolment motivation and non-completion.

A tentative hypothesis based on the results from this study is that status and income are perceived as consequences of mastering and succeeding for the business administration students, satisfying the need for competence. Future studies should investigate whether need satisfaction seem to explain the association between status motivation and drop out. Furthermore, intervention studies aiming at enhancing specifically male nursing students' intrinsic motivation would be valuable.

Future studies should investigate what the pattern between initial motivation and dropping out looks like for study programmes other than nursing and business administration. In addition, investigating how initial motivation relates to motivation while studying, and which factors might support or diminish motivation for different student groups would be an interesting continuation of the present study.

Conclusion

The study has shown that motivation predicts dropping out differently for students in different study programmes. The strengths of the study lie in exploring the relationship between initial motivation and dropping out longitudinally and separately for these two study programmes. Previous research has often looked at motivation cross-sectionally measuring the intentions or thoughts about dropping out, and not considering that these relationships might depend on the students' group. This contributes to nuancing the conception of what type of motivation students preferable should have to succeed.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11233-023-09113-2>.

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Declarations

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