EXPECTATIONS OF NURSING DEGREE STUDENTS: A LONGITUDINAL ANALYSIS

Hidalgo-Blanco, M.A., Puig-Llobet, M., Lluch-Canut, M.T., Guàrdia-Olmos, J., Moreno-Arroyo, C., Amador-Campos, J.A.

Author details:

Hidalgo-Blanco, M.A. (Miguel Ángel) Department of Basic and Medical/Surgical Nursing, University of Barcelona Nursing School

Puig-Llobet, M. (Montserrat) **(Corresponding)** Department of Public Health, Mental Health, and Maternity/Early Childhood Nursing, University of Barcelona Nursing School

Lluch-Canut, M.T. (María Teresa) Department of Public Health, Mental Health, and Maternity/Early Childhood Nursing, University of Barcelona Nursing School

Guàrdia-Olmos, J. (Joan) Department of Social and Quantitative Psychology, Faculty of Psychology, University of Barcelona

Moreno-Arroyo, C (Carmen). Department of Basic and Medical/Surgical Nursing, University of Barcelona Nursing School

Amador-Campos, J.A. (Juan Antonio) Department of Clinical and Psychobiological Psychology, Faculty of Psychology, University of Barcelona

Corresponding autor: Puig-Llobet, Montserrat

Fundings

Research program in University Teaching Institute of Sciences of Education Redice – 2016.

EXPECTATIONS OF NURSING DEGREE STUDENTS: A LONGITUDINAL ANALYSIS

ABSTRACT

Background: The expectations of students regarding their studies have a strong influence on their academic performance and personal training, and they are closely related with their academic and professional future.

Objectives: To analyze initial expectations and how they are fulfilled, in a cohort of nursing students during the four years of their degree program.

Design: Creation and validation of a questionnaire and longitudinal study.

Setting: University nursing school in Catalonia (Spain).

Participants: 339 students of the nursing degree.

Methods: Two questionnaires were constructed with 10 items each, of a mixed nature: some items were previously validated in prior studies while other new items were made and included, following a review of the literature. The questionnaires were designed to assess the expectations of the students at the beginning of the academic year (CUDEX questionnaire) and the fulfillment of these at the end of the year (CUDEX-C questionnaire).

Results: Internal consistency (Cronbach's alpha) for the CUDEX questionnaire and the CUDEX-C was 0.70. Factorial analysis of the expectations questionnaires suggested a three-factor model, with an acceptable internal consistency for each of the factors. Statistically significant differences were found between the initial expectations and their fulfillment at the end of the academic year for all the factors and in all four years of the degree program.

Conclusions: The three-factor model of the expectations (Academic adaptation, personal development, and academic performance) shows a good fit for the several samples and time points.

The nursing students feel that not all of their expectations were fulfilled during their studies, and there were significant differences between their initial expectations and those fulfilled, in terms of all three factors.

Key words: expectations, first-year students, nursing students, questionnaire design student perceptions.

INTRODUCTION

Expectations may be understood as reasonable likelihood that something will occur (Edberg & Andersson, 2015). They involve a subjective assessment of the possibility of reaching a concrete goal, and they are a reference point for understanding satisfaction (Hamshire, Willgoss & Wibberley, 2013). Satisfaction is understood as the assessment that emerges from the fulfillment or non-fulfillment of the expectations (Higgs, Polonsky, & Holick, 2005; Lovrić, Prlić, Milutinović, Marjanac, & Žvanut, 2017).

Expectations are linked with motivational (interests) and cognitive (assessment) aspects of behavior, and they carry important repercussions in the processes of decision-making, persistence in certain behaviors, and academic and workplace performance, among others (Cowen, Hubbard, & Hancock, 2018; Hamshire et al., 2013; Lobo & Gurney, 2014; Lovric et al., 2017). For this reason the expectations of university students vis a vis their studies is an area of research that is important due to the repercussions that these might have on their continued pursuit or abandonment of study, academic success, and satisfaction with their studies.

Most studies of student expectations have focused on preventing students from dropping out or on analyzing their expectations of their professors, practicums, tutoring, and services offered to the students by the school. In this line, Balloo, Pauli, & Worrell (2017) analyzed the expectations of a sample of 258 English psychology students in regard to academic questions (teaching methodology and academic assessment) and resources offered by the school. They found that the youngest students had expectations concerning the type of academic assessment and teaching methodology similar to those that they had held in their prior academic setting (secondary or preparatory), and they expected that teaching would continue to be highly personalized and immediately retroactive.

In the area of nursing studies, O'Donnell (2011) carried out a qualitative study with 15 nursing students that had abandoned their studies. By means of in-depth interviews, an analysis was made of their reasons for dropping out. It was found that among the main reasons for dropping out was that the students had held unrealistic expectations at the outset of their studies concerning the workload that would be entailed, and on the ratio of theory to practice in the program. In the same line, Duque, Duque, & Suriñach (2013) carried out a study with nursing students (n=192) and business administration students (n=284) at four Spanish universities, with the aim of analyzing the factors that might influence the decision to drop out of school. They found that unrealistic expectations concerning their programs, along with a poor choice of study major and

financial troubles, were the most frequent reasons for dropping out. They concluded that it was critical to guarantee an optimal level of satisfaction with the university experience on the part of students, with the focus on assuring that expectations were more reasonable at the outset of the degree programs in question.

An important element to consider in the analysis of the expectations of and satisfaction with university studies is the difference between initial expectations and their fulfillment. All research in this area highlights the importance of examining the change in the expectations of students over the course of their studies (Lovrić, Prlić, Barać, Plužarić, Pušeljić, Berecki, & Radić, 2014). In this regard, Darlaston-Jones, Pike, Cohen, Young, Haunold, & Drew (2003) found significant differences between initial expectations of the faculty and their fulfillment, in a group of Australian psychology students; the initial expectations of the students were higher than they were at the end of the semester (week 14). Nellson, Kift, & Clarke (2008) analyzed the expectations of learning management, challenges, and experiences in the university setting among first-year students at an Australian university, and they also found statistically significant differences between initial expectations felt that their initial expectations had not been sufficiently met.

Analysis of initial expectations of students concerning their study and their subsequent fulfillment has generally been carried out by means of cross-sectional studies with a qualitative methodology. The only study we found based on longitudinal study of the change in students' expectations is that of Lovrić et al. (2017). The authors used a questionnaire to assess the changes in expectations regarding clinical training in a cohort of 34 nursing students. They found that the students showed an increase in their expectations as their studies progressed and as they acquired greater clinical knowledge.

There have been no quantitative longitudinal studies, to our knowledge, to examine the changes in expectations of students over the course of their university studies. The aim of the present study, then, was to carry out and present a longitudinal analysis of the expectations of a cohort of nursing students at the beginning and the end of each of the four years of the nursing degree program, with analysis of initial expectations and of the expectations fulfilled over the course of the program.

SAMPLE

The initial sample was made up of 339 students in the nursing degree program of a public university in Catalonia, Spain, who were assessed at eight time points over the course of their four years in the academic program: at the beginning of the first year (initial expectations first year, El1, n = 339; 276 females, 81.4%, and 63 males,18.6%), at the end of the first year (expectations fulfilled at the end of the first year, EC1, n = 295; 243 females, 82.4%, and 52 males, 17.6%), and at the beginning and end of the second year (El2 and EC2, n = 244; 197 females, 80.7%, and 47 males, 19.3%), third year (El3 and EC3, n = 191; 157 females, 82.2%, and 34 males, 17.8%), and fourth (and final) year (El4 and EC4, n = 83; 67 females, 80.7%, and 16 males, 19.3%). The students were each uniquely identified by the four final numbers (of an eight-digit sequence) of their national identity card in order to insure follow-up and anonymity in their replies.

INSTRUMENT

The questionnaires about expectations are based on the Expectations Scale of Zysberg & Zisberg (2008). The scale consists of twelve items grouped into three factors: self-betterment expectations, social expectations, and professional expectations. The three factors present moderate reliability (α >0.6 for all factors) and intercorellation (r 0.42 and -0.52; p<0.01) coefficients (Zysberg & Zisberg, 2008).

The scale was translated from English to Spanish with the authors' permission. The following procedure was used for the translation: 1) translation into Spanish by two qualified translators with knowledge of academic subjects and psychological assessment; 2) comparison of translations to identify incongruences and development of a single version; 3) translation of this single version into English by a qualified translator not involved in the first translations; 4) comparison of forward translation and back translation to evaluate the semantic and conceptual equivalence of the items, and 5) development of the final version. This procedure takes into account cultural and linguistic differences and ensures the quality of the translation procedure (Brislin, 1986; Brislin, Lonner, & Thorndike, 1973; Candell & Hulin, 1987; Guillemin, Bombardierm & Beaton, 1993; Hambleton, 1994; Van de Vijver & Hambleton, 1996; Ziegler & Bensch, 2013).

Following the translation of the scale, three items were added to it in order to measure academic expectations. O'Donnell (2011) considered it essential to include these

expectations, because their non-fulfillment was a triggering factor for dropping out of school.

All of the resulting items were analyzed by a focus group which included experts (n=8). In order to improve comprehension of some items, and based on the results obtained in the focus group, it was decided to replace several items of the expectations questionnaire that stated "Lead a wild and entertaining life" and "Have a profession" with "Entertain myself and have a good time" and "Have a profession when my studies are completed", respectively. It was also decided to withdraw the item "Meet my future partner" given that all the members of the expert focus group felt that it was not relevant to the dimension that was being measured. The pilot version of this questionnaire consisted of 14 items.

Afterwards, the pilot version of the questionnaire was again analyzed in two focus groups, one made up of experts (n=8) and the other of nursing students (n=9). These focus groups identified the items that referred to expectations that were likely to be fulfilled both in the first year and over the course of the four-year program; these were reformulated so as to clearly refer to general expectations (CUDEX questionnaire) and to fulfilled expectations (CUDEX-C questionnaire).

The two final questionnaires were made up of ten items each to assess the students' expectations at the beginning of the school year (CUDEX) and those expectations deemed to have been fulfilled in each of the years and at the conclusion of studies (CUDEX-C). For example, "*I hope to get good grades in my university studies*" (*CUDEX*)"/"*I got good grades in the first year of my university studies*" (*CUDEX-C*). The items were evaluated with a seven-level Likert scale (from 1= "Not at all" to 7= "Totally"). Internal consistency (Cronbach's alpha) of CUDEX and the CUDEX-C was 0.70.

PROCEDURE

Completion of the questionnaires was administered, along with other evaluation instruments not covered in the present article, by one of the researchers (MAHB) during a normal class session in the first week of classes (CUDEX) and the final week (CUDEX-C).

ETHICAL CONSIDERATIONS

Permission to carry out the study was requested in writing from the head office of the nursing school as well as from the bioethics committee of the university. Request for

authorization was also made to the person in charge of the subject class in which the study was to be administered.

Each copy of the questionnaire had on its first page information concerning the aims of the study. Study participants were informed that completing the questionnaire was voluntary and anonymous. They were also informed that by completing the questionnaire they were providing their consent to participation in the study. Additionally, the participants were offered the opportunity to drop out of the study at any time they might choose. To this end they were given contact information for the chief researcher.

DATA ANALYSIS

To begin, we analyzed the observed distribution of the latent factors of the two questionnaires (CUDEX and CUDEX-C) at each measured time point. To this end we used Shapiro-Wilks goodness of fit tests. After this first phase, we carried out exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to estimate the verisimilitude of the factorial model of the three latent factors proposed in the construction of the questionnaires.

Given that the two questionnaires were established on the basis of the same factorial structure, differing in one's referring to initial expectations and the other their fulfillment, we applied a configurational invariance analysis by means of the exploratory structural equation models (ESEM) offered by Marsh et al. (2009), in order to assess this equality of factorial structure.

To analyze the fit of the models, CFA was assessed by inspecting fit indexes including CFI, RMSEA, and SRMR, with good fit defined as CFI \ge 0.95, RMSEA \le 0.05, and acceptable fit defined as CFI \ge 0.91, RMSEA \le 0.08, including the ratio χ^2/df (Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004).

The difference between the initial expectations and the fulfilled expectations at the end of each academic year was assessed by means of the difference between the standardized scores at the beginning and at the end of each school year.

RESULTS

In order to study the possible invariant structure of the two questionnaires, we applied, as noted above, an ESEM, yielding a single factorial structure for the eight samples defined by each questionnaire and each time point. Table 1 shows the invariant factor loads for the items and factors of the CUDEX and CUDEX-C questionnaires.

Table 1

Adjustment for configurational invariance of the samples is guaranteed by the values for the obtained adjustment indexes. Table 2 summarizes these values. As may be seen, the values indicate a good fit for the model.

Table 2

The use of oblique rotations allowed for the establishment of correlated factors. Table 3 summarizes the correlations among the factors. As may be seen, all of the correlations were high and significant.

Table 3

Scores were estimated for each of the proposed factors based on the regression coefficients, in accordance with the values for the factor loads. The standardized scores were used to guarantee comparability among factors. Table 4 shows the basic descriptive terms for each factor, and their denominations.

Table 4

Finally, we proceeded with the comparison of samples and points in time for the scores for the three factors, with the aim of determining whether there were statistically significant differences between the expectations at the beginning of the academic year and those fulfilled at its end. Each comparison was made using the three identified factors and standardized scores. Table 5 presents the differences between the standardized scores for the initial expectations and those fulfilled, for each of the four years in the program.

Table 5

Statistically significant differences were found between the initial expectations and those that were fulfilled for all the factors, and for all four years of the nursing degree program. In all cases there was a significant reduction in the scores for initial expectations and those fulfilled, which implies that the students felt that all their expectations at the outset of the year had not been fulfilled.

Graph 1 represents the gap, in standardized scores, between the initial expectations and the expectations that were fulfilled, for each factor and each year. The value 0 indicates complete agreement between initial expectations and those fulfilled at the end of each year. The higher the score, the greater the gap between the initial expectations and those that were fulfilled.

Graph 1

As may be seen, for the first year of study there is a greater gap between the expectations for academic performance and personal development, which then proceeds to narrow, more or less in tandem, over the course of the four years of the program. This indicates that in the first course there is a wide discrepancy between initial expectations and the likelihood of their fulfillment; this discrepancy then adjusts itself, little by little, over the duration of the students' tenure in the degree program.

As for academic adaptation, in the first year the differences between initial expectations and their fulfillment were small. However, these differences grew in the second and third years before reversing direction and returning in the fourth year more or less to values associated with the first year.

DISCUSSION

The aim of this study was to analyze the expectations of a cohort of students in the nursing degree program of a public university in Catalonia, Spain, over the course of the four academic years of the program. Expectations were assessed at the outset (initial expectations) and the end of each year (fulfilled expectations) using two questionnaires designed to this end. The results make it clear that the ten items of the two questionnaires show a good fit to a three-factor model—academic adaptation, personal development, and academic performance—applied to different samples and time points. These results are similar to those of other cross-sectional studies grouping student expectations into personal development, academic adaptation, and academic performance (Pace & Kuh, 1998; Kuh, Gonyea, & Williams, 2005; Pleitz, McDougall, Terry, Buckley, & Campbell, 2015).

The results obtained indicate that the students present a higher initial level of expectation for all factors over the four years of the degree program than they do for expectations that they consider to have been fulfilled in that time. Of particular note is the gap for first-year students between initial expectations and their fulfillment in the areas of academic performance and personal. This finding coincides with the so-called 'myth of the first-year student', coined by Stern (1966) and then applied by other authors (Keup, 2007; Surgenor, 2011; Maloshonok & Terentev, 2017). This concept is based upon the observation that students tend to have greater, and less realistic, expectations at the outset of their university studies, and that these expectations are

refined and adjusted over the course of their tenure as students. This phenomenon may be related to the fact that students just beginning their university studies arrive with preconceived ideas that do not in fact match the university reality, and as a result their expectations are very high. Current research in nursing, including studies by (Balloo et al., 2017; Jones, Yeoman, Gaskell, & Prendergast, 2017; Pather & Dorasamy, 2018; Hafiz, Hafiz, & Ahmad, 2019), has detected this phenomenon, leading to the recommendation that students be made aware that there may be a mismatch between their perceptions and what they will actually encounter in the university's academic setting. Along this line, Jones et al. (2017) concluded in their research carried out among secondary education students that informing students about the possible mismatch between their preconceptions about how the university works and the reality of it may go a long way towards adjusting their initial expectations, and may thus help smooth the transition from secondary schooling to university studies.

Regarding the expectations related to academic adaptation, it is of note that there was an important increase in the differences between initial expectations and their fulfillments in the second year of studies, which then remained stable through the third year before decreasing in the fourth, arriving finally at the levels of the first year. This phenomenon coincides with, and may be related to, the beginning of the clinical practicum in healthcare centers of the students in the cohort. It may be the case that the preconceived ideas of the students concerning the world of healthcare clash with the reality experienced in the practical setting form the basis of these differences. As the students have greater contact with the reality of clinical practice, the gap between their year-initial and year-final expectations may narrow, as seen in our results for the third and fourth years. Future studies will be needed to examine this hypothesis.

The differences found between initial expectations and their fulfillment in each year of the program are cause for concern, and a solution to the problem they represent needs to be found. We must not overlook the fact that the fulfillment of expectations has a direct effect on the satisfaction, motivation, and behavior of the students (Lovrić et al., 2017), and so academic performance may be affected. Institutions of higher learning must learn to manage these expectations during the transition period from secondary school to the university and then throughout university studies, in order to prevent false expectations from developing. Future students need to be informed about the personal and academic demands that are implicit in pursuing university studies.

Another factor that may be related with the differences between the initial expectations and their fulfillment is the lack of resources in the university required to adapt to the needs of Generation Z (those born 1996-2012). These new students are self-sufficient in their training, highly creative, and well-accustomed to new technologies (Schwieger & Ladwig, 2018). It may be that the lack of preparation and resources on the part of the university in adapting to these generational changes represents a failure to meet the needs of these students, thereby causing a non-fulfillment of their expectations. Again, further research is needed to corroborate this hypothesis.

To sum up, our results indicate that there are significant differences for each academic year between the expectations of the students at the beginning of the year and their perception concerning the fulfillment of those expectations at the end of the year. New studies are in order combining longitudinal follow-up with cross-sectional analysis of expectations and the academic performance of cohorts in order to determine whether the change in expectations is greater or less in relation to the academic performance turned in by the students.

This study did have certain limitations that restricted its generalizability. For example, although our initial sample size was good, there was a decrease over the course of the four years of the study, such that the final sample was 25% of the initial. Another limitation is that the study was carried out in a single nursing school. This may mean that the study population was not representative of the other schools of nursing. Future studies should be multicenter in nature, while taking advantage of the questionnaires prepared for this study. Despite these limitations, to our knowledge this is the first study to longitudinally evaluate the initial expectations and their fulfillment in a cohort of nursing students at an important university. The results of this study may be relevant in designing and implementing activities to ease the transition of students from secondary to university studies, as well as tutorials to allow for the adjustment of expectations throughout the academic career of the students. This could have an influence over their academic adaptation and performance.

CONCLUSIONS

The results of this study have made it clear that the three-factor model for the questionnaire about expectations (academic adaptation, personal development, and academic performance) has a good fit for the different samples and time points.

Nursing students feel that their initial expectations are not fulfilled over the course of their academic careers. Significant differences were found between the initial expectations for each academic year and the fulfillment of them, in terms of three factors: academic adaptation, personal development, and academic performance.

It is in the first year of the degree program that the greatest gap between expectations and their fulfillment in academic performance and personal development is found. This gap is then reduced in parallel form over the course of the four years of the program. And as for academic adaptation, the gap widens in the second and third years, only to narrow in the fourth and return to values on a par those for the first year.

REFERENCES

- Balloo, K., Pauli, R., & Worrell, M. (2017). Undergraduates' personal circumstances, expectations and reasons for attending university. *Studies in Higher Education*, 42(8), 1373-1384. doi: <u>http://doi.org/dgsf</u>
- Brislin, R. W. (1986). The wording and translation of research instruments. In
 W. J. Lonner & J. W. Berry (Eds.), *Field methods in cross-cultural psychology* (pp. 137-164). Newbury Park, CA: Sage Publications.
- Brislin, R. W., Lonner, W. J., & Thorndike, R. M. (1973). Cross-cultural research methods. New York: John Wiley & Sons. doi: <u>http://doi.org/fjphs5</u>
- Candell, G. L., & Hulin, C. L. (1987). Cross-language and cross-cultural comparisons in scale translations. *Journal of Cross-Cultural Psychology*, 17, 417-440. doi: <u>http://doi.org/c37c6s</u>
- Cowen, K. J., Hubbard, L. J., & Hancock, D.C. (2018). Expectations and experiences of nursing students in clinical courses: A descriptive study. *Nurse education today*, 67, 15-20. doi: http://doi.org/gdt278
- Darlaston-Jones, D., Pike, L., Cohen, L., Young, A., Haunold, S., & Drew, N. (2003). Are they being served? Student expectations of higher education. *Issues in Educational Research*, 13 (1), 31-52.
- Duque, L. C., Duque, J. C., Suriñach, J. (2013). Learning outcomes and dropout intentions: an analytical model for Spanish universities. *Educational Studies*, 39(3), 261-284. doi: <u>http://doi.org/dgsg</u>
- Edberg, A.K., Andersson, P.L. (2015). The shift from a medical to a nursing orientation: a comparison of Swedish nursing students' expectations when entering the nursing degree programme in 2003 and 2013. *Nurse Education Today*, 35, 78-83. doi: http://doi.org/f3ng95

- Guillemin, F., Bombardierm, C., & Beaton, D. (1993). Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. *Journal of clinical Epidemiology*, 46, 1417-1432. doi: <u>http://doi.org/d4bzh8</u>
- Hafiz, Y. A., Hafiz, F. A., & Ahmad, M. B. (2019). Difference between expectations and perceptions of students regarding service quality of public sector HEIs. *Bulletin of Education and Research*, 41(1), 131-146.
- Hambleton, R. K. (1994). Guidelines for adapting educational and psychological tests: A progress report. *European Journal of Psychological Assessment*, 10, 229-244.
- Hamshire, C., Willgoss, T.G., Wibberley, C. (2013). What are reasonable expectations? Healthcare student perceptions of their programmes in the North West of England. *Nurse Education Today*, 33 (2), 173-179. doi: <u>http://doi.org/dgsj</u>
- Higgs, B., Polonsky, M. J., Hollick, M. (2005). Measuring expectations: forecast vs. ideal expectations. Does it really matter? *Journal of Retailing and Consumer Services*, 12(1), 49-64. doi: http://doi.org/ds93xs
- Jones, H., Yeoman, K., Gaskell, E., & Prendergast, J. (2017). Perceptions of university assessment and feedback among post-16 school pupils. Assessment & Evaluation in Higher Education, 42(8), 1233-1246. doi: <u>http://doi.org/dgsk</u>
- Keup, J. R. (2007). Great expectations and the ultimate reality check: voices of students during the transition from high school to college. NASPA Journal, 44 (1): 3–31. doi: <u>http://doi.org/c5vkv4</u>
- Kuh, G. D., Gonyea, R. M., & Williams, J. M. (2005). What students expect from college and what they get. In T.E. Miller, B.E. Bender, J.H. Schuch, & Associates, *Promoting reasonable expectations: Aligning student and institutional views of the college experience* (pp. 34-64). San Fransico, CA: Jossey-Bass.
- Lobo, A., Gurney, L. (2014). What did they expect? Exploring a link between students' expectations, attendance and attrition on English language enhancement courses. *Journal of Further and Higher Education*, 38 (5): 730–54. doi: http://doi.org/dgsq

- Lovrić, R., Prlić, N., Barać, I., Plužarić, J., Pušeljić, S., Berecki, I., Radić, R. (2014). Specificities and differences in nursing students' perceptions of nursing clinical faculties' competencies. *Journal of Professional Nursing*, 30 (5), 406–417.
 doi: http://doi.org/f6jbwk
- Lovrić, R., Prlić, N., Milutinović D., Marjanac, I., Žvanut, B. (2017). Changes in nursing students' expectations of nursing clinical faculties' competences: A longitudinal, mixed methods study. *Nurse Education Today*, 59, 38-44. doi: <u>http://doi.org/gcnw49</u>
- .Maloshonok, N., & Terentev, E. (2017). The mismatch between student educational expectations and realities: prevalence, causes, and consequences. *European Journal of Higher Education*, 7(4), 356-372. doi: <u>http://doi.org/gf9dq2</u>
- Marsh, H.W., Muthén, B., Asparouhov, A., Lüdtke, O., Robitzsch, A., Morin, A.J.S., & Trautwein, U. (2009). Exploratory structural equation modeling, integrating CFA and EFA: Application to students' evaluations of university teaching. Structural Equation Modeling, 16, 439-476. doi: <u>http://doi.org/bcqxks</u>
- Nelson, K. J., Kift, S. M., Clarke, J. A. (2008). Expectations and realities for first year students at an Australian university. In: 11th Pacific Rim First Year in Higher Education Conference 2008, 30 June 2 July 2008, Hobart.
- O'Donnell, H. (2011). Expectations and voluntary attrition in nursing students. *Nurse Education in Practice*, 11(1), 54-63. doi: <u>http://doi.org/c475r3</u>
- Pace, C. R., & Kuh, G. D. (1998). College student experiences questionnaire (4th ed.).Bloomington, IN: Indiana University, Center for Postsecondary Research.
- Pather, S., & Dorasamy, N. (2018). The mismatch between first-year students' expectations and experience alongside university access and success: a South African University case study. *Journal of Student Affairs in Africa*, 6(1), 49-64.
 doi: http://doi.org/dgvg
- Pleitz, J. D., MacDougall, A. E., Terry, R. A., Buckley, M. R., & Campbell, N. J. (2015). Great expectations: Examining discrepancy between expectations and experiences on college student retention. *Journal of College Student Retention: Research, Theory, & Practice*, 17, 88–104.

- Schwieger, D., & Ladwig, C. (2018). Reaching and retaining the next generation: Adapting to the expectations of Gen Z in the classroom. *Information Systems Education Journal*, 16(3), 45.
- Surgenor, P. W. G. (2011). Measuring up: comparing first year students' and tutors' expectations of assessment. Assessment and Evaluation in Higher Education, 38(3), 288-302. doi: http://doi.org/c3g2k8
- Van de Vijver, F. & Hambleton, R. K. (1996). Translating test: Some practical Guidelines. *European Psychologist*, 1, 89-99. doi: <u>http://doi.org/c5xd2z</u>
- Ziegler, M., & Bensch, D. (2013). Lost in translation: Thoughts regarding the translation of existing psychological measures into other languages. *European Journal of Psychological Assessment*, 29, 81-83. doi: <u>http://doi.org/dgvh</u>
- Zysberg, L., Zisberg, A. (2008). Nursing students' expectations of the college experience. *Journal of Nursing Education*, 47(9), 389-395. doi: <u>http://doi.org/cctv54</u>



Graph 1. Gap, in standardized scores, between initial expectations and those fulfilled at the end of each year for the degree students in nursing.

| ITEM | FACTOR 1 | FACTOR 2 | FACTOR 3 |
|------|----------|----------|----------|
| 1 | 0.186 | 0.649* | 0.138 |
| 2 | 0.879* | 0.080 | -0.319 |
| 3 | 0.608* | 0.013 | 0.137 |
| 4 | 0.626* | 0.026 | 0.745* |
| 5 | 0.745* | 0.312 | 0.090 |
| 6 | 0.214 | 0.733* | 0.223 |
| 7 | 0.220 | 0.832* | -0.015 |
| 8 | -0.119 | 0.706* | 0.590* |
| 9 | 0.113 | 0.046 | 0.406* |
| 10 | 0.223 | 0.186 | 0.894* |

Table 1. Factors of the CUDEX and CUDEX-C questionnaires in terms of the eightESEM measurements. Factor loads in bold with p < .0001.

* *p* < .0001

Table 2. Adjustment data for the ESEM model assuming invariance of the factorial structure for the eight samples.

| <i>X</i> ² | gl | p value | Ratio | CFI | TLI | RMSEA | SRMR |
|-----------------------|-----|---------|-------|------|------|-------|------|
| 1948.76 | 473 | < .001 | 4.12 | .991 | .973 | .0420 | .012 |

Table 3. Matrix of Pearson correlations among factors of the CUDEX and CUDEX-C questionnaires.

| | FACTOR 1 | FACTOR 2 | |
|----------|----------|----------|--|
| FACTOR 1 | | | |
| FACTOR 2 | 0.750* | | |
| FACTOR 3 | 0.650* | 0.673* | |

*p < .001

| FACTORS | Minimum | Maximum | Mean | Standard |
|--------------|-------------|---------|---------|-----------|
| TACTORO | | | | deviation |
| F1. ACADEMIC | 4.00 | 20.00 | 22 2240 | 2 97607 |
| ADAPTATION | 4.00 | 29.00 | 23.2240 | 3.87097 |
| F2. PERSONAL | 4 00 | 28.00 | 21 5684 | 4 66887 |
| DEVELOPMENT | 4.00 | 20.00 | 21.0004 | 4.00007 |
| F3. ACADEMIC | 4 00 | 28.00 | 10 8213 | 5 70862 |
| PERFORMANCE | T.UU | 20.00 | 19.0215 | 0.13002 |
| | | | | |

 $\label{eq:table4} \textbf{Table 4}. \ \text{Descriptive terms for the factors of the CUDEX and CUDEX-C scales}.$

| COMPARISON EI1 – EC1 EI2 – EC2 | | Mean (SD) | Medias (SD) | | p value | |
|---|-------------|-----------------------|--------------|----------|---------|--|
| | Factor | Initial | Fulfilled | t test | | |
| | | expectations | expectations | | | |
| COMPARISON EI1 – EC1 EI2 – EC2 EI3 – EC3 | Academic | cademic -0.308 -0.540 | | 2 770 | 006 | |
| | Adaptation | (1.137) | (0.911 | 2.119 | .000 | |
| | Personal | 0.290 | -1.142 | 20.966 | < 001 | |
| EII – ECI | development | (0.89) | (0.89) | 20.000 | <.001 | |
| EI1 – EC1 EI2 – EC2 | Academic | 0.440 | -1.239 | 20,000 | < 001 | |
| | performance | (0.731) | (0.620) | 20.999 | <.001 | |
| El2 – EC2 | Academic | 0.558 | -0.349 | 12.20 | <.001 | |
| | Adaptation | (0.797) | (0.879) | 12.59 | | |
| | Personal | 0.470 | -0.681 | 16 547 | < 001 | |
| | development | (0.737) | (0.842) | 10.547 | <.001 | |
| | Academic | 0.724 | -0.844 | 20.202 | <.001 | |
| | performance | (0.631) | (0.637) | 28.303 | | |
| | Academic | 0.590 | -0.253 | 10 0 1 2 | <.001 | |
| | Adaptation | (0.737) | (0.842) | 10.942 | | |
| | Personal | 0.478 | 0.067 | E 704 | <.001 | |
| E13 – EC3 | development | (0.741) | (0.719) | 5.704 | | |
| | Academic | 0.718 | -0.352 | 17 000 | <.001 | |
| | performance | (0.640) | (0.623) | 17.339 | | |
| EI3 – EC3 EI4 – EC4 | Academic | 0.472 | 0.175 | 2 709 | 006 | |
| | Adaptation | (0.808) | (0.777) | 2.790 | .000 | |
| | Personal | 0.607 | 0.365 | 2 950 | ,005 | |
| | development | (0.668) | (0.568) | 2.650 | | |
| | Academic | 0.639 | -0.004 | 7 20 | <.001 | |
| | performance | (0.664) | (0.642) | 1.30 | | |

Table 5. Comparisons of initial expectations and those fulfilled, in standardized scores, four each of the four years of the nursing degree program.

EI1: Expectations at beginning of first year; EC1: Expectations fulfilled at end of first year; EI2: Expectations at beginning of second year; EC2: Expectations fulfilled at end of second year; EI3: Expectations at beginning of third year; EC3: Expectations fulfilled at end of third year; EI4: Expectations at beginning of fourth year; EC4: Expectations fulfilled at end of fourth year.

| STRUBE Statement- | -Uneckii | ist of items that should be included in reports of cross-sectional studies | 1 |
|------------------------|------------|---|------------|
| | Item No | Recommendation | Page No |
| Title and abstract | 1 | (<i>a</i>) Indicate the study's design with a commonly used term in the title or the abstract | 1 |
| | | (b) Provide in the abstract an informative and balanced summary of what was | 1 |
| | | done and what was found | - |
| Introduction | | | |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 2 |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | 2 |
| Methods | | | |
| Study design | 4 | Present key elements of study design early in the paper | 4 |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of | 4 |
| C | | recruitment, exposure, follow-up, and data collection | |
| Participants | 6 | (a) Give the eligibility criteria, and the sources and methods of selection of | 4 |
| 1 | | participants | |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, | 5 |
| | | and effect modifiers. Give diagnostic criteria, if applicable | |
| Data sources/ | 8* | For each variable of interest, give sources of data and details of methods of | 5 |
| measurement | | assessment (measurement). Describe comparability of assessment methods if | |
| | | there is more than one group | |
| Bias | 9 | Describe any efforts to address potential sources of bias | 5 |
| Study size | 10 | Explain how the study size was arrived at | 5 |
| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If | 5 |
| | | applicable, describe which groupings were chosen and why | |
| Statistical methods | 12 | (a) Describe all statistical methods, including those used to control for | 5 |
| | | confounding | |
| | | (b) Describe any methods used to examine subgroups and interactions | 6 |
| | | (c) Explain how missing data were addressed | 6 |
| | | (d) If applicable, describe analytical methods taking account of sampling | 6 |
| | | strategy | |
| | | (<u>e</u>) Describe any sensitivity analyses | 6 |
| Results | | | |
| Participants | 13* | (a) Report numbers of individuals at each stage of study—eg numbers | 6 |
| | | potentially eligible, examined for eligibility, confirmed eligible, included in | |
| | | the study, completing follow-up, and analysed | |
| | | (b) Give reasons for non-participation at each stage | 6 |
| | | (c) Consider use of a flow diagram | 6 |
| Descriptive data | 14* | (a) Give characteristics of study participants (eg demographic, clinical, | 6 |
| | | social) and information on exposures and potential confounders | |
| | | (b) Indicate number of participants with missing data for each variable of | 7 |
| | | interest | |
| Outcome data | 15* | Report numbers of outcome events or summary measures | 7 |
| Main results | 16 | (a) Give unadjusted estimates and, if applicable, confounder-adjusted | 7 |
| | | estimates and their precision (eg, 95% confidence interval). Make clear | |
| | | which confounders were adjusted for and why they were included | |

STROBE Statement—Checklist of items that should be included in reports of *cross-sectional studies*

| | | (b) Report category boundaries when continuous variables were categorized | |
|-------------------|----|---|---|
| | | (c) If relevant, consider translating estimates of relative risk into absolute risk | 7 |
| | | for a meaningful time period | |
| Other analyses | 17 | Report other analyses done-eg analyses of subgroups and interactions, and | 7 |
| | | sensitivity analyses | |
| Discussion | | | |
| Key results | 18 | Summarise key results with reference to study objectives | 8 |
| Limitations | 19 | Discuss limitations of the study, taking into account sources of potential bias | 9 |
| | | or imprecision. Discuss both direction and magnitude of any potential bias | |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, | 9 |
| | | limitations, multiplicity of analyses, results from similar studies, and other | |
| | | relevant evidence | |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results | 9 |
| Other information | | | |
| Funding | 22 | Give the source of funding and the role of the funders for the present study | |
| | | and, if applicable, for the original study on which the present article is based | |

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.