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ABSTRACT

Widespread implementation of peer mentoring programmes in universities has produced mixed results – with some significant successes but also some disillusionment. These contradictory results suggest that mentoring operates in a context of systemic complexity, where multiple interconnected factors interact. One relevant aspect is the axiological dimension inherent in mentoring relationships and in negotiating the purpose and expectations of the various stakeholders involved in the process. The aim of this study is to design and validate a system of value-based indicators to evaluate the process and outcomes of a university peer mentoring program for first-year undergraduate students. The Delphi method was used for validation, with the participation of 24 experts, including seven former mentors, three university professors specialised in evaluation indicators, six experts in values and eight experts in university mentoring programmes. This methodology, which makes use of expert input, allowed us to refine the definitions of values and select the evaluation indicators that best reflected those

values. From the study findings, we present a set of 41 value-based indicators based on seven core values. The results are discussed in relation to the theoretical model used and include both the limitations of the research and proposals for future studies. This study aims to contribute to the field by emphasising the importance of explicitly addressing the axiological dimension in mentoring programmes – an aspect often overlooked in mentoring research.

1. Introduction

In recent decades, the implementation of formal peer mentoring programs has become widespread in universities as a strategy to provide support and guidance for students, as demonstrated by the growing number of studies on mentoring in higher education conducted in most countries in recent decades (Alonso-Muñoz et al. 2023; Masalimova et al. 2024; Nuis, Segers, and Beausaert 2023). According to Queiruga-Dios et al. (2023), approximately 90% of Spanish universities offer some kind of mentoring programme, and most of these are aimed at first-year students (Crespí and López-González 2023, García-Cardo, Queiruga-Dios, and Queiruga-Dios 2023). The same trend can be seen in other countries; as Stoeger, Balestrini, and Ziegler (2021) have pointed out, it is difficult to imagine universities in the United States not offering formal mentoring programmes. For first-year students, the stated aim of these programmes is to facilitate the transition and adaptation to higher studies and the university environment. Here, the concept of adaptation is understood in its broadest sense, which includes understanding the codes of the academic ecosystem, managing time and learning activities, developing competences, constructing new social relationships and exploring one's own socio-professional identity (Manzano-Soto and Roldán-Morales 2015). From an institutional perspective, implementing mentoring plans during the first year of a degree programme is primarily justified by the need to strengthen students' feeling of connection to their studies. This approach has the aims of enhancing student engagement and performance, thereby reducing the likelihood of dropout, which is more common in the first year (Alonso-García et al. 2024; Foy and Keane 2018; López-Aguilar, Álvarez-Pérez, and Ravelo-Rodríguez 2022), and improving academic achievement rates (Leidenfrost et al. 2014), emotional and psychological wellbeing (Collings, Swanson, and Watkins 2014; T. P. Le, Hsu, and Raposa 2021; Orsini 2023; Rincón-Flores et al. 2024), and social integration (Collings, Swanson, and Watkins 2014; Lapon and Buddington 2024; H. G. Le, Sok, and Heng 2024).

Although there are debates and criticisms surrounding the proliferation of definitions put forward for mentoring, and a lack of conceptual clarity regarding its characteristics (Jacobi 1991; Crisp and Cruz 2009; Dawson 2014; C. A. Mullen and Klimaitis 2021; Nuis, Segers, and Beausaert 2023; Stoeger, Balestrini, and Ziegler 2021; Ziegler et al, 2021), the literature on university mentoring is generally optimistic about the potential benefits of such programmes, both for the mentored students (Crespí and López-González 2023; Gehreke, 2024; Law, Hales, and Busenbark 2020; Queiruga-Dios, 2023) and for the mentors themselves (Baugh 2021; Bunting and Williams 2017; R. Hall and Jaugietis 2011; Leavitt, Nelson, and Cutucache 2022; Rivenes Lafontan et al. 2023; Seery et al. 2021; Yuliawati et al., 2023).

That being said, however, some authors have expressed disillusionment and a declining academic interest in research on mentoring (Stoeger, Balestrini, and Ziegler 2021). Among the causes of this disenchantment, they highlight the ineffectiveness of many programmes in achieving the positive effects for which they were created, stressing the discrepancy between 'the great theoretical promise' of mentoring programmes and their 'modest empirical reality' (p. 8). Ziegler et al. (2021) used the expression 'mentoring paradox' to explain the heterogeneity in results and the wide range of effects observed in mentoring research, which they attributed to the unprofessional design and implementation of programs. Furthermore, C. A. Mullen and Klimaitis (2021) pointed to a decline in interest in the traditional dyad approach of mentoring, although they did also support the underpinning general principles and highlight the emergence of more relational contemporary mentoring.

In this emerging line of development and professionalisation, new proposals for improving the design and implementation of mentoring programmes have appeared. Thus, for example, while Dawson (2014) drew up a reference framework consisting of 16 elements to consider when designing a mentoring model, Stoeger, Balestrini, and Ziegler (2021) recommended seven key elements that must be taken into account to increase the quality standards and results of the programs. For their part, Nuis, Segers, and Beausaert (2023) carried out an exercise to synthesise and integrate existing definitions of mentoring, which allowed them to arrive at a holistic definition of the term and create a new taxonomy based on evidence of the distinctive characteristics of mentoring. Alonso-García (2021) also proposed a systemic, multilevel model of mentoring that takes into consideration the antecedent, process and outcome variables involved in the success of a university peer mentoring program.

All these proposals implicitly consider an axiological dimension inherent to interpersonal relationships and the negotiation of purpose, goals and expectations among the different stakeholders involved in the mentoring process. Mentoring does not occur in an axiological vacuum; it is inherently embedded in a context of values and norms that shape interactions between mentors and mentees. Values are always present by default in any interpersonal relationship and explain individuals' positions and actions when interacting with each other (Van Langenhove, 2021). When values are not explicitly articulated and intentionally transmitted, they are inevitably conveyed implicitly through behaviours, attitudes and decision-making processes (Kärner and Schneider 2023). Paradoxically, mentoring spaces, which are often designed to foster positive development, may inadvertently perpetuate antagonistic values (e.g. normalising hazing, academic dishonesty or peer mockery), thereby undermining their intended purpose. It's worth pointing out that hazing is sometimes viewed positively by students as a means of integration and socialisation, enabling them to get to know their peers (Hamodi-Galán, De olivera-Camilo, and Sarria-Gil 2023; Marín et al., 2008 Roso et al. 2021; Vegini et al., 2019). Students hold competing values and the possible social pressure that mentors may exert on first-year students must be taken into account (Obindah and Iminabo 2025). To prevent this dissonance, Argyris and Schön (1996) propose that values be made explicit, openly discussed and consistently modelled.

Therefore, it seems that the design of an institutional mentoring programme should explicitly justify and define the values that underpin and guide its purpose, as well as the practices and behaviours that are considered (un)acceptable or (un)desirable by all

stakeholders (Spillane and Joullié 2022). This specification should be incorporated in the definition of the model as well as in the program's training processes and evaluation.

The justification for defining values is the need to explicitly state the basis on which mentoring relationships are expected to develop, as well as to clarify the expectations of the different stakeholders involved and the relational framework in which personal values interact with the institutional environment, where both individual and shared goals and values are at play. Formal mentoring programs are mostly evaluated on the basis of participant satisfaction, together with some direct or indirect outputs (number of dropouts, average academic grade, etc.) (Leavitt, Nelson, and Cutucache 2022; Stoeger, Balestrini, and Ziegler 2021). It is more difficult to find research that focuses on what happens in the mentoring space when the mentor and mentee (or group of mentees) meet or communicate (Seery et al. 2021).

Based on this rationale, the aim of the present study was threefold. Firstly, we sought to define a set of seven values comprised within the academic model employed on an undergraduate degree programme at a medium-sized European university where a peer mentoring programme for first-year students has been running for 10 years. These values had been agreed on by the teaching staff and students in a previous study on the mission, vision and values of the degree program, but had not yet been defined, nor was an evaluation and monitoring plan put in place to ensure their implementation. The faculty of the mentoring program decided to incorporate the seven values in the training of student mentors to make explicit and set out the framework of relationships that should guide interactions with incoming students, and with the intention for mentors to incorporate these values into mentoring sessions through reflective discussions with first-year students. Thus, each value had to be defined in operational terms in order to evaluate if it was being addressed in the programme. Secondly, the values were operationalised by drawing up assessment indicators for each of them. And finally, the developed definitions and indicators were validated by experts using the Delphi method.

The study contributes to highlighting the importance of explicitly stating the axiological dimension in mentoring programs, an issue that is often ignored in mentoring research. It also proposes a methodological procedure for defining and operationalising values that may be useful to anyone considering designing, implementing or evaluating a mentoring programme in higher education.

Although the values have been defined specifically for a particular mentoring program and faculty campus, the selected values, as well as their definition and validation procedure, can be applied to any other university context. As Alonso-Muñoz et al. (2023) pointed out in an analysis of recent trends in mentoring in higher education, it is necessary to develop measurement indicators to determine the degree of compliance and areas for improvement in mentoring programmes. In line with this, the present study may be useful for other university mentoring programs aspiring to provide an explicit framework for the values on which they are based and develop a system of indicators to evaluate the impact of training mentors, the evolution of the mentoring process and the results of the programme. Furthermore, since the scientific literature consistently shows that alignment between personal and organisational values is strongly associated with greater job satisfaction, organisational commitment and performance, as well as lower

turnover intentions (Kristof-Brown, Schneider, and Su 2023), this proposal can be used as a model applicable to other organisational contexts (e.g. associations, administrations or companies), since it highlights the critical importance of value congruence for both individual well-being and organisational success.

The following two sections will justify (1) the selection of a specific values model for a particular program and university setting, assuming the contextual nature of mentoring processes, in line with current recommendations (Alonso-García 2021, Stoeger, Balestrini, and Ziegler 2021, Ziegler et al., 2021), and (2) the need for values training in mentoring programmes.

1.1. Defining the model and selecting values

Values are usually defined as 'cognitive representations of basic motivations as goals to be pursued' (Sagiv and Schwartz 2022, p. 519), or as 'fundamental convictions, ideals, standards or life positions that act as general principles of action and points of reference that guide our decision-making and personal evaluations of beliefs or actions, connected to our personal integrity and identity' (Martínez-Vargas 2021, p. 34). In an institutional environment such as the academic sphere, personal values are expressed by means of various actors negotiating their positions, purposes and objectives. This process establishes the local moral order (Harré 1983) and defines the scope for individual and collective actions.

The design of a value-based mentoring program requires decisions be taken regarding the selection of the theoretical model that will inform and guide the purpose and objectives of the program and its deployment in practice. Three widely used models for values education in the university setting were initially considered: Schwartz's Theory of basic personal values (Sagiv and Schwartz 2022; Schwartz and Bilsky 1987; Schwartz et al. 2012); Hall-Tonna's model (Elexpuru, Villardón, and Yániz 2013; B. Hall 1995; Korres and Elexpuru 2015); and Amartya Sen's capability-based approach (Martínez-Vargas 2021; Sen 1999). After careful consideration, the systemic and contextualised model of the mentoring process proposed by Ziegler et al. (2021) was chosen, for two main reasons. Firstly, the aim was not so much to find a model specifically focused on values, but rather a theoretical model that would allow values to be articulated within the framework of a university mentoring programme. Usefully for our purposes, this model proposes an approach developed specifically for the design and analysis of mentoring programs which considers the axiological dimension. Secondly, it offers a set of working definitions and conceptual tools that enable a holistic and dynamic approach to the process.

The model proposed by Ziegler et al. (2021) assumes that mentoring takes place in a framework of systemic complexity where a multitude of interconnected factors interact, whether they are related to the mentoring program itself or not. They provide a broad and working definition of mentoring 'as the activities of persons in their role as mentors' (p. 176) which, through a network of regulatory processes for monitoring and control, contributes to the achievement of the programme's objectives. It also introduces the concept of 'mentoring spaces' (M-spaces), defined as 'spaces of possibilities' that account for the dynamic nature of the process and the potential changes that can be generated through the mentoring activity. The model is relevant to this project because it provides a conceptual framework in which to progressively contextualise different actions for improving the program, as well as a guide for designing, implementing and evaluating it.

On this theoretical basis, the following set of seven values were selected to underpin the undergraduate mentoring programme of the degree in psychology at the University of Girona: Cooperation and care for others and oneself; Respect and integrity; Commitment; Professionalisation; Motivation and work; Openness to critical reflection; and Innovation and excellence (Villar & Cunill, 2021). These values had been agreed some years before on the basis of a participatory process of analysis and discussion between the teaching staff and students aimed to reach a consensus on the mission, vision and values of the degree of psychology in which the mentoring programme was already being carried out. Using an open-ended questionnaire, 13 responses were obtained out of 17 queries made to the teaching staff, with a response rate of 61.2% among 2nd year students and 38.8% among 3rd year students. Based on a content analysis of the responses and subsequent collective debate, consensus was reached on the seven values that were to underpin the educational orientation of the studies. However, although the seven agreed values were endorsed by the Board of Psychology studies, they were not actually defined. The professors in charge of the mentoring programme decided to integrate the values of the degree into the programme itself, which required defining them and developing evaluation indicators.

1.2. The need for values education in mentoring programmes

Taking the systemic frame of reference proposed by Ziegler et al. (2021) as a starting point, the design of a mentoring program can adopt multiple spaces of possibilities (mentoring spaces or M-spaces) in relation to everything that can be imagined (Epistemic M-spaces), what it is actually possible to do depending on the circumstances (Nomological M-spaces), and what is desirable or preferred (Deontic M-spaces). The negotiation and application of the values that justify and regulate decision-making and the interactions between all the actors involved take place in the latter space. It is therefore necessary to discuss which value system will guide collective or individual decisions in relation to any particular programme and its objectives. Thus, for example, one could prioritise an approach focused exclusively on the student and his or her personal development or emphasise contribution to the community and social development as an objective of university education, although the two approaches may also be complementary. Furthermore, from the perspective of interpersonal relationships, conflicts often arise in mentoring programmes concerning (1) the type of demands made by first-year mentees (e.g. requests to the mentor for notes, previous coursework or opinions about the teaching staff); (2) discrepancies between initial expectations and negative experiences in mentoring relationships, with consequent emotional consequences (Seery et al. 2021); (3) the type of interpersonal relationships allowed between mentor and mentee and their limits (C. A. Mullen and Klimaitis 2021); and (4) the existence of conflicting positions on the culture and norms regulating university academic life (individualism, competitiveness, culture of effort, complaining, etc.). In this regard, explaining a system of shared values can help to clarify the expectations and limits of individual and collective action in mentoring spaces. In this context, students are expected to develop their own personal values in dialogue with the needs, goals and values of the institutions and social

communities they belong, contributing to their development. In the case of psychology studies at the University of Girona, the mentoring programme (*Peer Support and Cohesion Programme - SiC Plan*, in Catalan) was launched in the 2015–16 academic year as a continuation of a previous Mentoring Action Plan (Villar & Font-Mayolas, 2007). The programme has several aims: to guide, support and resolve the doubts of new students during their incorporation into university life and encourage their participation during their time at the institution. And also to go beyond academic training and motivate new students to develop the competences, skills and values relevant to the profession and society.

Participation as a mentee gives first-year students the possibility to become mentors in the future. People who have been mentored during the first year and who would like to join the team later receive specific training during the second year. This training includes knowledge of the mentoring model, training in support and mentoring skills, role-playing sessions, debates and group dynamics, knowledge of how the University operates and participation on the mentoring plan committees, which are led by senior students. The training is carried out by third-year students, teachers, external professionals specialised in coaching-mentoring and student representatives of the University.

From the outset, the programme was conceived as an organisational initiative for continuous improvement, incorporating two evaluation instruments aimed at identifying areas for improvement and assessing the development of the programme: firstly, the mentors' follow-up reports, and secondly, questionnaires with open and closed questions addressed to mentors and mentees at the end of the academic year.

The analysis and review of the information provided by these evaluation tools over the years has shown (1) that the mentors' follow-up reports repeat the same ideas without observing any evolution in the programme or in the way of thinking and 'doing' mentoring; and (2) that the questionnaires administered annually to mentors and mentees repeatedly provide highly satisfactory results. Therefore, neither instrument has contributed to providing data which could lead to possible improvements.

This contrasts with the perception of the supervisory team (the first four authors), which is that the mentoring programme has significant room for improvement. However, the proposals suggested were not fully explored or addressed by the different mentoring teams (e.g. mentoring with more content, or not only addressing the practical demands that usually appear during entry into the university). Furthermore, the question arises as to whether the culture and values that are being transmitted in the mentoring space might produce what Ziegler et al. (2021) term 'Iatrogenic externalities'. Based on this approach, the following two objectives were formulated:

(a) To integrate the mentoring plan into the mission, vision and values of the Psychology degree and overall academic model, in coordination with the rest of the existing student support systems at degree and institutional level.

(b) To define and systematise a set of evaluation indicators, in line with the new values and competency-based orientation of the mentoring programme, to be validated by national and international experts.

This article addresses the defining of values and construction of a system of indicators as a first step for the subsequent training in values of mentors in charge of the mentoring program and for the evaluation of the process and results.

2. Method

The starting point for developing the system of indicators was the set of seven values agreed upon by students and teachers on the degree programme in a previous study (Villar & Cunill, 2021): (a) *Cooperation and care for others and oneself*; (b) *Respect and integrity*; (c) *Commitment*; (d) *Professionalization*; (e) *Motivation and work*; (f) *Openness to critical reflection*; (g) *Innovation and excellence*. To define the values, each member of the research team conducted a literature search on two values, using four types of sources: general dictionaries (in Catalan, Spanish and English), technical dictionaries (*Termcat, n.d.*), value dictionaries (*Work values, n.d.*) and the academic literature. The results of the search were tabulated according to three categories: value definition, value dimensions and possible indicators. Following the literature review, the research team met regularly to define each value and generate possible indicators of achievement. Value definitions and indicators were iterated until consensus was reached among the team members.

Following this, two questionnaires were designed to obtain process (PROC) and output (PROD) indicators, respectively. The aim of the process indicators was to assess whether mentoring actions were carried out in accordance with the defined value system, while the output indicators were to assess whether the expected changes in the attitudes and/ or behaviours of the mentees occurred at the end of the programme.

These two questionnaires contained the same definitions of values and the same list of indicators, the only difference being that the initial formulations for each set of indicators were different: a) in the case of the process form (PROC), the set of indicators for each value was preceded by the expression 'In the mentoring environment...', followed by the indicators for the corresponding value; and b) in the case of the output form (PROD), the

Table 1. Comparison of the wordings for the process and output indicators of the six value indicators for the value 'openness to critical reflection'.

Process indicators (PROC)	Product indicators (PROD)
In the mentoring environment...	At the end of the mentoring scheme, a change in the attitude and/or behaviours has been observed in terms of...
a) ...self-assessment of one's own academic and professional competences is promoted.	a) ...self-assessment of one's own academic and professional competences.
b) ...self-assessment of one's own strengths and areas for improvement is promoted.	b) ...self-assessment of one's own strengths and areas for improvement.
c) ...critical reflection on one's own actions, attitudes or opinions is encouraged.	c) ...critical reflection on one's own actions, attitudes or opinions.
d) ...openness to views that may be uncomfortable or unorthodox is encouraged through critical and argumentative dialogue.	d) ...openness to views that may be uncomfortable or unorthodox through critical and argumentative dialogue.
e) ...reflection on biases in the way situations are viewed/ addressed is facilitated.	e) ...reflection on biases in the way situations are viewed/ addressed.
f) ...self-assessment of one's own academic and professional competences is promoted.	f) ...self-assessment of one's own academic and professional competences.

Note. The full definitions of the values and the complete list of indicators can be found in Table 4 and Table 5 of the supplementary material.

indicators were preceded by the expression 'At the end of the mentoring programme, a change in attitude and/or behaviours has been observed. . .'. In this way, there were two versions of each indicator, to allow for the evaluation of both the process and the outcome of the mentoring program (Table 1).

In order to validate the definitions of the values and the system of indicators, the Delphi method (Dalkey and Helmer 1963; Hsu and Sandford 2007) was applied, which constitutes a qualitative tool based on the consensus view of different experts having conducted various rounds of consultations (Khodyakov et al. 2023).

According to Hsu and Sandford (2007), unlike other methods of analysis, the Delphi method is based on several iterations of experts with the aim of reaching a consensus on a specific topic. One of its characteristics is that the feedback process allows experts to review their initial assessments according to the information gathered in previous iterations, giving them the possibility to modify and/or change their contributions according to the feedback provided by the other participants on the panel. One of the main advantages provided by this method is the anonymity of the expert participants, thus avoiding the effect of dominant individuals and, in addition, the issue of confidentiality is facilitated by the diverse geographical origin of the participants and the use of different communication channels (e.g. email) to exchange information. This minimises the disadvantages that can be caused by group dynamics.

Consensus reached by experts in Delphi studies is often accepted as 'evidence' that can help achieve greater reliability and accuracy in decision-making processes. It has therefore been widely used in various disciplines, with a substantial acceleration in the number of publications since its initial use in the 1960s (Khodyakov et al. 2023). However, despite the Delphi method's extensive acceptance across various academic domains, concerns have been raised regarding the dearth of evidence on optimal practices for defining consensus, the panel size, the number of rounds required and optimal reporting (Diamond et al. 2014; Humphrey-Murto and de Wit 2019; Schifano and Niederberger 2025). In the educational field, Green (2014) noted some weaknesses in the Delphi method: high drop-out rates; the anonymity of participants, which may undermine the study's credibility; the risk of deception; the risk of producing the lowest common denominator of agreement among experts; the process being too mechanical and non-motivating; and a lack of rigour in analysis or reporting. In the following section, we will discuss the process followed using the Delphi method to carry out the expert consultation in an attempt to overcome some of these limitations in accordance with recommendations for interdisciplinary standardised reporting (Delphistar) (Niederberger et al. 2024) (The overview of the Delphi procedure is shown in Figure 1).

2.1. The Delphi process

2.1.1. Selecting the group of experts

A total of 24 experts participated in this study, of whom seven were former mentors on the Degree's mentoring programme, three were university professors with expertise in evaluation indicators, six academics or researchers with expertise in values and eight academics or researchers with expertise in university mentoring programmes. A total of 22 participants responded in the first round, and 15 in the second (Table 2).

Process of the Delphi study
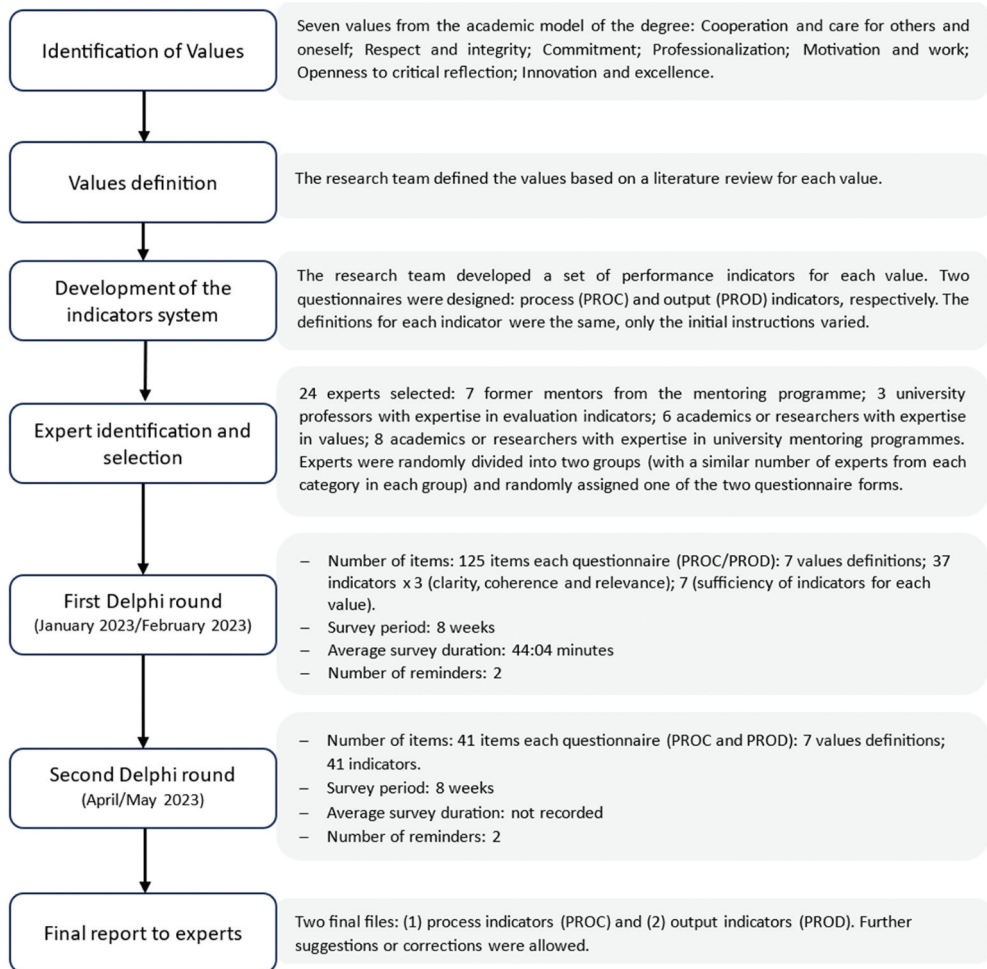
Figure 1. Process of the Delphi study.

Table 2. Number of experts in the two rounds.

	Initial group	1ST ROUND	2ND ROUND
Expert ex-mentors	7	6	3
Experts in indicators	3	3	3
Experts in values	6	6	4
Experts in mentoring	8	7	5
TOTAL	**24**	**22**	**15**

To select the group of experts from the sample, the following criteria were considered: a) that the former mentors were former psychology degree students who had participated in the Degree's mentoring plan and, therefore, (1) had been mentored in the first year of the degree, (2) had received mentoring training during the second year of the project and, finally, (3) had acted as mentors in

the third and fourth years; b) that the experts in indicators were university professors in the field of social sciences with expertise – accredited by publications – in the construction and evaluation of indicator systems; c) that the experts in values were academics or researchers with experience and publications in the field of the study of values; and (d) that the mentoring experts were academics or researchers involved in the development of mentoring schemes in the university environment.

Based on recommendations from the scientific literature, a number between 15 and 30 experts (Akins, Tolson, and Cole 2005, Cabero and Barroso 2013, Taylor 2019), and a minimum of 5–10 experts per area of expertise (Landeta and Lertxundi 2024), were considered to be optimal for the aims of this study. To this end, the project leaders contacted individuals from the four groups who had a suitable background and experience in each subject and the ability to contribute useful input and availability. Initial informal contacts were made by email to check their availability to participate in the study and, once the proposal was accepted, an email was sent with a letter of invitation and informed consent form.

This initial contact began the first round of consultation with the experts. The consultation process was conducted by sending an email with a link to one of the two online forms (PROC or PROD) created with the Microsoft Forms© application. To avoid overloading the number of items to be evaluated by each expert, half of them were sent the link to the process form (PROC) and the other half were sent the link to the twin form with the same definitions of values and product indicators (PROD). This platform was used because it is integrated within the University of Girona's institutional package and ensured an environment where the data collected were both anonymous and secure.

The same email explained that their task was to validate the definitions of the values and the appropriateness of the related indicators, taking into consideration the following criteria: Clarity (to what extent the wording of the indicator was understandable), Coherence (to what extent the indicator was related to the value being assessed), Relevance (to what extent the indicator was essential or important, or should be included as part of the value) and Sufficiency (to what extent the number of indicators is sufficient, whether indicators are missing or whether some aspects are over-represented). In addition, suggestion boxes were provided for the participants to make any relevant comments. A code was also given to each participant (Men01, Men02...) to pseudo-anonymise their contributions.

In the second round of consultation, a report was sent by email summarising the results of the first round on the criteria of CLARITY, CONSISTENCY, RELEVANCE and SUFFICIENCY, together with the experts' comments on the definitions and indicators for each value.

In order to simplify the task for the experts and given the high degree of consensus on the criteria of Clarity, Coherence and Relevance achieved for most of the indicator sets (although not for Sufficiency), in this second-round respondents were only requested to indicate whether the modifications made had improved the initial proposal. A new simplified form was sent as an attachment, asking experts to indicate whether the proposed REMOVAL, CHANGE or INCLUSION was an improvement on the original wording. The experts were given three response options: a) 'YES', b) 'NO', and c) 'OTHER', as well as a space to explain their decisions.

On this occasion, the form was created using Microsoft Word© and the experts were asked to fill in and email their answers to an institutional account created for this purpose.

Following the analysis of the results from the second round, some definitions and indicators were reformulated according to the proposed suggestions, and two final files were sent to the experts: (1) process indicators (PROC), and (2) output indicators (PROD). Experts were notified that the consultation cycle had finished due to data saturation. They were also informed that the consultation process had been conducted in parallel with two independent expert groups to simplify the task. For the final part of the process, the possibility of making suggestions or corrections to both documents was provided.

2.2. Consensus criteria

The first-round consensus criteria for definitions and indicators for each value are set out below.

Regarding the definitions, the experts were asked 'In your opinion, does this definition correspond to the value to be assessed in the mentoring context?'. Three alternative answers were offered: 'Yes', 'No' or 'Other'. It was decided to accept the definition when the percentage of 'Yes' answers was higher than 80% (Hsu and Sandford 2007).

In the case of indicators, the following consensus criteria were established:

(a) *Relevance criterion*. Each indicator had three possible responses: a) Not relevant; b) Relatively important; and c) Totally relevant. It was decided not to modify indicators with an agreement among experts greater than or equal to 80% of the sum of responses b) and c).

(b) *Coherence criterion*. As in the previous case, three response options were offered: a) Not related; b) Partially related; and c) Totally related. Again, the indicator was only modified when the agreement among experts was less than 80% of the sum of responses (b) and (c).

(c) *Clarity criterion*. There were four response options for this: (a) Not understood; (b) Partially understood; (c) Easily understood; and (d) Fully understood. The criterion was to make no changes if the agreement exceeded or equalled 80% of the sum of responses (b), (c) and (d).

(d) *Sufficiency criterion*. Three response options were offered for this: a) Indicators are sufficient; b) Not enough indicators to represent the value; and c) Some aspects are over-represented. In this case, it was agreed that the sum of responses b) and c) could not be greater than 20%. As this criterion did not depend on the two versions of the questionnaire, it was decided that the responses of all experts, i.e. those evaluating the PROC and PROD questionnaires, should be added together for this calculation.

In the second round, experts were asked whether the changes made to the indicators (REMOVAL, CHANGE and INCLUSION) were an improvement on the original wording. The experts were given three response options: a) Yes; b) No; and c) Other. In this case, all indicators that experts marked with the response options 'No' and 'Other' were revised.

2.3. Ethics

The University of Girona's Research Ethics and Biosafety Committee indicates that approval of the research protocol is not required when no personal data are requested from the participants, as is the case in this study, where all information was provided and analysed anonymously. Each expert received a declaration of informed consent by email, which was returned signed to the project managers, together with a cover letter outlining the aim of the study and how the Delphi methodology would be applied. The responses to the questionnaires were returned anonymously by each expert and were analysed on the basis of an Excel table without any personal data.

3. Results

3.1. Delphi 1st round (30/01/2023)

The first consultation of the 24 experts was sent out on 30 January 2023 and data collection was closed on 10 February 2023, with a final participation of 22 individuals.

In relation to the definitions, the results showed 91% agreement among experts for the values of (a) *Cooperation and care for others and self*, and (g) *Innovation and excellence*; 87% for (d) *Professionalization*; and 83% for (c) *Commitment* and (e) *Motivation and work*, all above the criterion value. Only (b) *Respect and integrity* (77%) and (f) *Openness to critical reflection* (70%) were below 80%. However, with the exception of (a) *Cooperation and care for others and oneself*, all other definitions were reformulated to a greater or lesser extent in line with the experts' input.

Regarding both the process (PROC) and product (PROD) indicators, Table 3 shows that a very high degree of agreement was found for most of them when it came to three of the criteria (Clarity, Relevance and Coherence). However, for the Sufficiency criterion, a lower degree of agreement was observed for the values of (a) *Cooperation and care for others and oneself*, (b) *Respect and integrity* and (c) *Commitment* (Table 3).

Despite this high degree of agreement, the multiple contributions of the experts led the team of analysts (the first four authors of this article) to modify 24 of the 42 items on the PROC questionnaire (57%), and 27 of the 44 items on the PROD questionnaire (61%), as well as including changes to almost all of the proposed definitions. Only the definition of the value (a) *Cooperation and care for others and oneself* remained unchanged.

Table 3. Results for the degree of agreement among experts in round *1*.

VALUES	RELEVANCE		COHERENCE		CLARITY		SUFFICIENCY
	PROC EXPERTS	PROD EXPERTS	PROC EXPERTS	PROD EXPERTS	PROC EXPERTS	PROD EXPERTS	TOTAL EXPERTS
A. Cooperation and care for others and oneself	96%	98%	95%	100%	95%	98%	**67%**
B. Respect and integrity	95%	100%	93%	100%	97%	96%	**65%**
C. Commitment	98%	98%	98%	96%	95%	96%	**74%**
D. Professionalization	100%	94%	100%	100%	98%	100%	91%
E. Motivation and work	100%	100%	100%	100%	100%	100%	96%
F. Openness to critical reflection	100%	100%	100%	100%	100%	100%	87%
G. Innovation and excellence	100%	98%	97%	100%	97%	100%	87%

Note. N = 23 for TOTAL EXPERTS; n = 13 for PROC EXPERTS; n = 10 for PROD EXPERTS. In bold, the percentages of responses that did not meet the stipulated consensus criterion.

By way of example, the value (f) *Openness to critical reflection* was defined in the first version as 'considering any idea or belief in the light of the foundations that support it and the conclusions that follow from it', and in the second round as 'taking into consideration ideas, beliefs or actions that may be uncomfortable or unorthodox from critical and argumentative dialogue, appreciating self-evaluation and being open to the evaluation of others'. This change took into consideration the following contributions from the experts:

> [Men7- Expert Indicators] 'Openness to uncomfortable, seemingly illogical, counter-current, unorthodox, outlandish ideas should be considered. Openness to critical reflection must include openness to change, and change can be uncomfortable and engender multiple resistances'.

> [Men15- Values expert] 'The definition includes "ideas or beliefs", which leads us to think that this is a fundamentally theoretical (philosophical) analysis, and the indicators include actions, which requires another type of analysis directed at one's own conduct (process of consciousness)'.

As for the indicators, by way of example, indicator (d) for the value (f) *Openness to critical reflection* was defined in the first instance as: '...openness to the views of others and the promotion of critical and constructive dialogue is encouraged'. Considering the experts' comments, it was changed to '...openness to views that may be uncomfortable or unorthodox is encouraged through critical and argumentative dialogue'.

Among the comments by experts who suggested modifications, we would like to highlight the following:

> [Men14- Values expert] 'Critical reflection, from current developments in Applied Ethics, is understood as a dialogical attitude (neither fundamentalist – only one reason is valid, mine – nor sceptical – everything is valid, therefore nothing is valid), and where everyone can be part of the dialogical consensus-dissensus, presenting their opinions with substantiated arguments. This is why I suggest "different" (diversity) instead of "any..." (related to scepticism). The relevance of the term "critique" or similar, in the same definition, is also important. Finally, if we speak of "argumentative grounds", this implies reasonableness, i.e. giving an account of the reasons for acting (and not just the "rational": premises-conclusions)'.

3.2. Delphi 2ⁿᵈ round (21/04/2023)

The second consultation was sent out on 21 April 2023 and data collection was closed on 25 May 2023, with the final participation of 15 experts (three ex-mentors; three experts on indicators; four experts on values; and five experts on mentoring).

In this round, although the number of modifications made by the team of analysts based on the experts' proposals was lower, it remained relatively high. Seventeen of the 37 items on the PROC questionnaire were modified (45%), together with 19 of the 40 items on the PROD questionnaire (47.5%), as well as four of the seven proposed value definitions. Three were retained, namely for the values: (a) *Cooperation and care for others and oneself*, (e) *Motivation and work* and (g) *Innovation and excellence*.

By way of example, modifications such as the following were made to the indicators:

f) . . . recommending and promoting the events and projects of the groups with which he/she is associated
was amended to:

f) . . . promoting the SiC Plan and psychology studies events and projects.
following comments such as:

> [Men13- Values expert] 'the definition is not clear to me: All indicators refer to the SiC Plan. Shouldn't it be part of the definition?'

3.3. Final report (25/07/2023)

The iterative cycle of consultation was brought to a close with an analysis of the received forms, given the generally high degree of consensus and the sense from the team of analysts (the first four authors of this article) that a saturation point had been reached and that few significant changes could be expected in a new round.

Although the proposals for changes or improvements were already of a detailed nature, iterative dilemmas began to appear. For example, if priority was given to precision in defining the value or indicator, its comprehensibility was lost, and when it was decided to prioritise comprehensibility, the definition was seen to become less precise, which brought us back to square one. In these cases, it was decided to reach a consensus among the four analysts in order to find the best of the imperfect options. In this round, five of the seven definitions were reformulated in accordance with the suggestions received, as well as 15 PROCs and 14 PRODs of the 41 indicators, and the final report was drawn up with the aforementioned rewordings. The two final documents with the definitive definitions and the lists of process (PROC) and product (PROD) indicators were sent to the experts, thus concluding the process, although the door was left open for them to send any further advice, changes or suggestions.

4. Discussion

In the field of university education, peer mentoring programs represent a useful tool for developing skills and values among first-year students (Alonso-García et al. 2024; Collings, Swanson, and Watkins 2014; Gehreke, Schilling, and Kauffeld 2024; Jacobi 1991; Lapon and Buddington 2024; H. G. Le, Sok, and Heng 2024). The present study focused on the design and validation of a system of value-based indicators to assess the impact of a university peer mentoring programme designed with the following aims: to facilitate the transition of students to the university environment, prepare them to make the most of their studies, develop the competences, skills and values relevant to the profession, and foster a collaborative collective culture aimed at transforming individuals and society.

No evaluation system can claim to be neutral, given that it will certainly leave out some things and include others (Teasdale et al. 2023). This means that it implicitly gives out the message to the user that what he or she is asked to focus on is more important than what is not included. In this respect, the reasons why it was decided to focus on the axiological space in this study were that, along with information and practical knowledge, in the mentoring space attitudes and values (regarding studies, teachers, faculty, profession,

etc.) are also continuously transmitted, and it is important that they are not only unravelled and made visible but also highlighted.

It is worth emphasising this because, although the axiological axis is inherent in any human act, more often than not it still belongs to the hidden curriculum in higher education (Orón Semper and Blasco 2018) and, specifically, in the processes that take place in mentoring spaces. Once this direction is taken, it is necessary to decide which values are to be prioritised in the programme. The choice of values has a clear impact when it comes to establishing the 'mission' of the mentoring project, which changes from a project focused solely on facilitating the transition to higher education and academic guidance to one oriented towards the training of (in our case psychology) professionals that, ideally, will guide students on their individual career paths and in their professional and social development.

In the present study, seven values were selected that students and professors had previously agreed upon in a previous study conducted on a specific programme (Psychology) at a medium-sized European university. This fact raises a question over the generalisability of the results to other academic and sociocultural contexts; that is, the choice of values may have been different had the study been conducted in a different setting. By way of example, Kumar and Prieto-Flores (2024) propose developing *humility* in mentoring programmes to foster the socioemotional development of students on the Indian sub-continent. Nevertheless, as goals, outcomes or determining factors for the success of the programs, most studies on university mentoring in different sociocultural environments mention concepts such as respect, care, commitment, motivation, cooperation, critical reflection, professionalisation or the formation of a professional identity (Krishna et al., 2024; Venktaramana et al., 2023), which allows us to assume some generalisability of these values to other university or organisation settings. There is a need for further research to confirm this assumption.

Apart from the sociocultural aspects, a particular feature of psychology compared to other disciplines is that it is predominantly made up of women (Olos and Hoff 2006). Gender appears to play an important role in academic and social integration at university, and some studies suggest that women would specifically benefit from the social support offered by mentoring programmes (Gehreke, Schilling, and Kauffeld 2024; O'Brien et al., 2010). Future research should examine whether the values selected in the present study can be extrapolated to programs with differing gender compositions.

By adopting the explanatory model posited by Ziegler et al. (2021) as a conceptual framework for integrating values into the mentoring program, we have placed emphasis on the need to make values explicit and work on the basis of these values, giving purpose to mentoring episodes and mentoring pathways (Ziegler et al., 2021), i.e. providing not only guidance and orientation towards shared and desirable goals but also meaning. In a way, the effectiveness of formal peer-mentoring programmes should be measured not only by their relationship with academic success or their impact on adjustment to university but also by the greater or lesser 'meaning' that all actions carried out in M-spaces should ideally have for all the actors involved.

At this point, it is worth considering a second argument for developing and making explicit this axiological or deontic space of mentoring as one for negotiation between the actors participating in the programme. The explicitness of the model should serve as an attractor to explore possibilities (epistemic and nomological) that have not yet been

developed and as a space for debate on values to be 'put to the test' rather than uncritically assumed. Proposals such as Stoller's (2021), which advocates for mentoring that cultivates critical agency and encourages mentors and mentees to take a dialectical (rather than monologic or unidirectional) stance towards institutional culture, are interesting in this regard.

We have aimed to preserve this critical, dialectical and emancipatory agency (Freire 1974; Bozalek, Zembylas, and Tronto 2020), both in the definition and selection of the indicators that were agreed upon (for example, when assessing whether the mentoring space '...stimulates critical reflection on one's own actions, attitudes or opinions'). Moreover, focusing on the values selected, which have been adapted to the mentoring space, will help ensure that criticism of the institutional culture is not superficial and is based on the assumption of positions which are active or participative (versus passive), autonomous (versus imposed) and oriented to the common good (versus centred on one's own benefit), in line with an 'expressive-collaborative morality' based on negotiation, collaboration, expression and agreement (Bozalek, Zembylas, and Tronto 2020, Walker, 2007).

The practical implications of this approach require specifying how the value-based indicators could inform the design and enhancement of first-year peer-mentoring programs, particularly with regard to tools or strategies that could be used to ensure that these values are deeply embedded in the mentoring process.

In our case, once the values and system of indicators had been agreed upon and defined, we began working with the team of senior student mentors to design the training plan for future mentors. We are now working towards mentors and mentees becoming aware of the expression and negotiation of personal and communal (e.g. institutional) values in the spaces of social interaction that characterise the university environment and professional sphere. The aim is to promote awareness among mentors of the importance of individual and collective values and their relationship with learning, professionalisation and interpersonal relationships in the academic and professional spheres, as well as the need for their expression and negotiation. To this end, activities such as role-playing, group dynamics, debates and joint reflection are used in face-to-face sessions.

As a recommendation for those in charge of implementing university mentoring programmes, we agree with Leidenfrost et al. (2014) when they point out that mentors should practise how to communicate the objectives of the mentoring programme and its content. However, we would also add the need to explicitly communicate the values that the programme aims to share (in line with those of the academic subject and the profession). These authors also emphasise the importance of mentoring supervision, especially in relation to how to be a mentor or mentoring relationships, which we think should include some reflection on the mentor as a role model and the negotiation of values.

4.1. Limitations

As indicated in the methods section, the use of the Delphi method in educational research has revealed several limitations (Green 2014). One of these is related to the possible low response rates from experts. According to the comment sent by one of

the ex-mentor experts, a possible reason for the lower participation of this group in the 2nd round could be due to the fact that the project was already very distant in time (one or two years after the end of their studies), which could have reduced their level of involvement in the study. However, the same person pointed out that this temporal distance could also be an advantage as it provided greater objectivity in the assessment of the program. In the words of this expert, 'often, when you are immersed in research, or a study, etc., you tend to have a more closed view and keep it. On the other hand, if you stop thinking about it for a while and come back to it later, you will probably come up with new observations, so the vision of someone who is now more "outside" the project is also of interest'.

Other limitations of this methodology relate, on the one hand, to the large amount of time required to apply it and, on the other, to the possibility that repeated iterations among experts may lead to settling for the group opinion (Humphrey-Murto and de Wit 2019). The appropriate number of rounds for conducting Delphi studies has been debated in the literature, with two or three rounds being preferred (P. M. Mullen 2003), bearing in mind the general agreement that repeating rounds leads to fatigue and increases attrition and research costs (P. M. Mullen 2003; Olsen et al., 2021). To counteract these effects, in this study we decided to conduct two rounds of consultation and a final round to close the process, considering that the information provided was sufficient to achieve the proposed objectives.

The excessive length of the questionnaire in the first round may also have been a limitation, increasing participant fatigue (Boulkedid et al. 2011; Gargon et al. 2019; Olsen et al., 2021). Although the expert panel was divided into two groups in order to reduce the number of items to be reviewed by each expert, each of the two questionnaire forms (PROC and PROD) contained 125 items.

Finally, it should be noted that the participants in the Delphi method are often assumed to have similar knowledge about the topic, which could lead to generalised results lacking in any depth. In this study, it was decided to select panellists from diverse backgrounds (indicators, values and mentoring) as well as alumni mentors in order to cover the different areas to be explored and ensure the heterogeneity of the expert panel (Linstone and Turoff 1975; Schifano and Niederberger 2025).

4.2. Conclusions and way forward

The findings of this study suggest that it is feasible to design a list of values and value-based indicators to evaluate and monitor a mentoring program based on expert validation. The use of the Delphi method, based on the contributions of experts, has allowed us to improve definitions for the values and select those evaluation indicators that most closely match the selected values. However, although a Delphi study can be an important part of the validation process, it is not sufficient on its own.

It will now be necessary to apply this model to the actual context for which it was created in order to analyse both the differences between the data obtained by mentors and mentees and between the process and output scores (for the same indicators). It will also be important to monitor the level of agreement between the system of indicators and the mentoring actions that will subsequently be evaluated against them, in order to determine the extent to which the actions

taken cover the broad range of issues addressed. Furthermore, work needs to be done to analyse how the training programme developed together with the mentors may change according to these values and indicators converted into 'learning outcomes'. Future studies should also assess students' and professors' perceptions of the value-based approach, as well as the results obtained in relation to the objectives of the mentoring scheme and their involvement in developing the programme.

Following up on this work will make it possible to determine whether this value-based peer mentoring model opens up 'spaces of possibilities' in mentoring (nomological, epistemic and deontic) and leads to a critical debate, avoiding the risk of the proposed model becoming a crystallised system of values and indicators. To this end, it will be necessary to assess the extent to which the system is being used and whether the people who use it feel comfortable with it or it creates difficulties for them. A system of indicators is by its very nature always imperfect, and it is essential to be open to the possibility that some of the indicators may eventually disappear as they are used and the need arises to modify them or to incorporate new ones. Either way, we believe that this article will contribute to helping promote greater attention to and consideration of the axiological dimension in university mentoring programmes.

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