

Constructing the Nurse Match Instrument to Measure Professional Identity and Values in Nursing

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Abstract

This article describes the development of an instrument to measure and explore the identities of nurses, nursing students and applicants to Nursing programmes. In particular the instrument focuses on the values held by respondents regarding Nursing. The current concern that standards in nursing may be falling and the need for methods to identify suitable candidates are described briefly. The instrument has been developed using the well-established ISA/Ipseus theory and psychometric technology to offer an in depth measure of professional identity and values in Nursing. The instrument is called Nurse Match since it allows for comparison and match between the profiles of applicants to Nursing programmes and experienced and well regarded nurses.

The article locates the instrument in theoretical and empirical approaches to identity and concentrates on three key theorists, Erikson; Kelly and Festinger. The use of Weinreich's Identity Structure Analysis and its associated measuring methodology Ipeus are justified as the approach adopted for the development of Nurse Match. The key characteristics of ISA are described together with those of Ipeus, the flexible open-ended measuring technology for the development, administration, response recording, analysis and reporting functions of a dedicated instrument.

Ipeus instruments are made up of constructs which are bi polar dimensions of thought and entities which are key elements in the social domain and include aspects of self as well as key others. Completion of the instrument requires all the constructs to be applied to the entities. Responses are recorded and analysed by the Ipeus software which produces a report including indications of the way the values inherent in the constructs are construed and used by the respondent. The instrument thus gives an in depth analysis of, in this case, the respondents position regarding key nursing values.

The article describes the steps followed to determine the constructs in the Nurse Match instrument and these included a literature review; ethnographic data gathering; and the use of expert judgements. Initial results from the use of the first version of the instrument demonstrate its power to identify the value orientations of individuals and groups. In particular the instrument reveals which constructs/values are of most importance to a respondent and their preferred pole of each construct.

The article concludes with indications of the next steps that will be followed in the development, standardisation, and refinement of the instrument including investigations of concurrent and predictive validity.

Introduction

This article describes the development of an instrument to measure and explore the identities of nurses, nursing students and applicants to Nursing programmes. In particular the instrument focuses on the values held by respondents regarding Nursing. The conceptualisation and construction of the instrument has raised a number of issues and these are identified and explored theoretically and empirically. The instrument and its development are located in the theoretical and empirical literature regarding identity and its measurement. The particular theoretical and empirical framework chosen for the instrument, ISA/Ipeus [1] and the steps in the development of an Ipeus instrument are described in detail. Preliminary results from the use of the instrument are outlined to demonstrate its potential.

The project is concerned with the development of an instrument to measure and explore professional identity in Nursing (PIN).

Encompassed by the notion of professional identity are the values, beliefs, and attitudes which underpin the professional behaviour of nurses. The instrument is intended to meet the need for a method to measure candidates' values as a component of values based recruitment (VBR). Since the instrument will allow comparison of respondents with ideal models it is called Nurse Match.

Value Based Recruitment

Following the UK Francis Report of a public inquiry into the failings at Mid Staffordshire NHS Foundation Trust [2] and widespread concerns that standards of nursing care may be falling, there has been increased emphasis in the UK on the need for reliable and valid instruments to measure professional identity and values for selection and developmental purposes. An appropriate instrument would profile the values and attitudes of applicants to Nursing

programmes to determine their suitability. It could also be used during the programme to determine progress towards an appropriate standard and in professional development programme to assess the maintenance and development of professional identity and values.

While there is broad agreement that the values that underpin nursing practice are important, there is no agreement regarding their conceptualisation or expression. The same problems exist with the broader notion of professional identity. There is limited evidence or empirical research into the concept of professional nursing identity or nursing values. Given the dearth of research, it is hardly surprised that there is a limited number of instruments available to measure professional Identity and values in Nursing and none that meet the necessary standards of psychometrics [3].

Notwithstanding the lack of suitable instruments, there is now a requirement in the UK that schools of nursing should build some form of value based recruitment (VBR) into their admission procedures. VBR can include conventional semi structured interviews; multiple mini interviews; scenarios and simulations. These practices can be supported by or replaced by reliable and valid psychometric tools [4]. The Nurse Match project has developed such a psychometric tool/instrument using the well-established theoretical perspectives of Identity Structure Analysis (ISA) and its associated psychometric technology, Ipseus[1]. ISA is a wide-ranging theory of identity which integrates the perspectives of a number of key theorists such as Erikson, Kelly, Festinger and Goffman. Ipseus is comprehensive software which facilitates both the development and the administration of the instrument. In addition it records and analyses responses to produce a quantified report regarding key variables. This ISA/Ipeus approach has been used widely in a variety of settings but not previously in Nursing [5].

An Ipseus instrument consists of a number of constructs which are bipolar dimensions of thought; and entities which are objects of thought drawn from relevant social domains and aspects of self. Completion of an instrument requires the application of the constructs to each of the entities using a nine-point scale to indicate how the construct applies. The responses to these judgements are then analysed by the specially developed programme to yield identity parameters indicating how respondents use constructs and relate to entities. Scores and qualitative descriptors regarding these parameters give a uniquely detailed identity profile and a description of how the respondent is positioned in relation to key values. The constructs used in the Nurse Match instrument are based largely on values which are considered important for Nursing.

Match software [6] allows systematic comparison of identity profiles with a model identity profile or profiles. In this case the comparison and match would be between the profiles of applicants to Nursing and students enrolled on Nursing programmes on the one hand with experienced and successful Nurses on the other. The title Nurse Match is intended to capture the capacity of the instrument to make these comparisons of respondents with ideal model identities.

The project has followed a number of stages including instrument development based on a comprehensive literature review and ethnographic work to determine the most appropriate constructs/values and entities; piloting of the instrument; and field-testing and initial standardisation of the instrument. Reporting procedures from the standardised instrument are being developed to ensure its functionality and fitness for purpose. The procedures involved in these stages are described below.

Work is completed on instrument development, piloting and initial standardisation. The project is based on a partnership between Nursing faculty at universities in the UK and North America and Identity Exploration Ltd.

Theorising and Measuring Identity

A major aim from the outset of the project was to locate the measurement of values and professional identity in Nursing in the rich literature concerning identity and its measurement. Since the focus of the instrument was to be on the nurses' identity some consideration had to be given to the notion of identity itself. There is a substantial literature regarding identity and its measurement. In the next section we briefly review this literature focusing on three foundation theorists and conclude this review with a description of a particular comprehensive theoretical framework regarding identity known as Identity Structure Analysis (ISA) together with its associated measuring tool - Ipseus.

We were looking for a tool that would validly, reliably and feasibly measure identity and identity change. Such a tool could be used to assess applicants to Nursing programmes. If used in a before and after design, it could chart changes in identity associated with an intervention program. It could also feedback insights to participants to aid their development and allow a categorisation or typology of participants to be adduced and related to process and outcomes. It would have to provide better data than other means of investigation including conventional questionnaires. ISA/Ipeus seemed worth exploring for a number of reasons that are considered below.

A number of theorists have addressed the notion of identity and the associated concept of self. Some brief consideration of three key approaches will serve as a prelude to the exposition of the Identity Structure Analysis (ISA) framework which we found to be unusually comprehensive in its synthesis of a number of perspectives on identity and self.

Within the number of psychological orientations that address identity and the related idea of self, Burns [7] found three broadly defined perspectives emerging:

- the psychodynamic approach to identity Erikson [8, 9]
- the personal construct theory view of identity and self (Kelly [10], Fransella [11])
- the cognitive – affective consistency approach to the relationship between self's cognitions of people and self (Festinger [12])

Erikson [8,9] focuses on the lifespan development of identity from a predominantly psychodynamic viewpoint, but conceptualised within a cultural context. Erikson's definition of identity spans one's past sense of self, current self as determined by self and significant others, and one's expectations for the future. Erikson's sophisticated and influential conceptualisation of identity emphasises that identity formation is a process that begins with partial identifications in childhood and proceeds through more complex identifications in adulthood which may be integrated into a coherent identity or may involve crises with identity conflicts.

The personal construct theory of G.A. Kelly [10,11] has as its fundamental postulate that individuals interpret or construe the world, rather than observing it directly. This construal constitutes their identity. Thus, rather than an objective world which people have to comprehend, comprehension is an actively constructed process that determines the world as we know it.

Personal construct theory (PCT) has three major characteristics. First, there are its philosophical roots in 'constructive alternativism'; that is, the view that we construct a world of meanings and an identity from a number of possible alternatives. Secondly, there is personal construct theory itself, which Kelly expresses formally as a series of postulates and correlates that express the nature of constructs, the elements to which they are applied, and their interrelations. Elements may be persons, things or ideas, and constructs are the bi-polar dimensions used to construe and make sense of the elements. Central to PCT is the powerful conception of the discrete 'bi-polar personal constructs' – the individual's unique framework/template for anticipating and interpreting people and events. Thus, for example, the people I know might be considered as elements, and the constructs I use to make sense of the people might include such bipolar dimensions as good/bad, friendly/unfriendly, clever/stupid etc. Finally, there is Kelly's method which allows the eliciting and analysing of an individual's constructs. Called the repertory grid test, it is based on the identification of differences and similarities between triads of elements. In this test, the individual is presented with elements in threes – the triads – and asked to indicate how two are similar and one is different from the other two. This elicits constructs that can then be applied to all relevant entities. Using this approach iteratively reveals the key constructs used by an individual to make sense of, and to construct, their world.

Festinger's [12] theory of cognitive dissonance concentrates on circumstances when the cognitions and feelings which constitute identity are incompatible with each other or one's behaviour. There is, he would argue, a pressure or tendency to realign one's attitudes and cognitions so as to decrease dissonance. For example, the inclination to believe good things about an admired person is strong, and one may reject or distort contrary evidence about that person to avoid dissonance. There is a process of adjustment whereby incompatible elements are made compatible by adjustment to one or both. Thus if there are bad facts known about an admired person, there are at least three possible adjustments: the person is seen as less good; the bad facts are seen as less bad; or a more complex conceptualisation of the person is developed admitting a combination of good and bad facets.

Some understanding of what these theorists had to say about identity will help in understanding ISA and, particularly the results of an ISA/Ipseus instrument since Weinreich's ISA is largely based on these foundation theorists. Concepts from these theorists are expressed through the parameters of an Ipeus report and thus what the instrument tells us about the respondent or group of respondents. Key parameters include identification with key individuals; evaluation of those individuals and self. Of particular relevance to this project is the information given on the use of constructs; the significance of constructs to the respondents world view; the emotional significance of constructs; the preferred poles of constructs; and conflicts or tensions in identifications and construct use.

Having surveyed over fifty reports of identity measurement to identify what seemed the best approach to explore professional identity and values [5] we chose Weinreich's method for a number of reasons. First, his theory is, in part, a synthesis of three major theoretical perspectives namely Erikson, Kelly and Festinger. Second, the linked software, Ipeus, is a framework software in that rather than being a dedicated instrument in itself, provides a basis for developing customised instruments appropriate for particular applications. Third, it is theory-based and its reports relate to key identity parameters from ISA which in its turn draws on major theoretical perspectives

regarding identity and the use of constructs/values. . Fourth, it is highly functional in that it not only facilitates the development of customised instruments but also presents the instrument to respondents in an attractive on-screen fashion; records and analyses their responses; and produces a report regarding key identity parameters. Fifth the approach and the Ipeus reports represents a unique integration of qualitative (emic) and quantitative (etic) measures. Sixth the Ipeus reports allow for both idiographic individual identity analysis and nomothetic group analysis. Seventh the approach has been proven in more than fifty studies of identity in a number of fields and applications including ethnic and national identity, education, counselling, social work and professional identity, but only recently in Nursing [13] This project built on Parry's work [13] which developed an identity instrument to explore the identities of nursing students and led to a categorisation of learning types.

Identity Structure Analysis (ISA)

Three things need to be addressed in understanding ISA/Ipseus. First is the theory of identity itself called Identity Structure Analysis (ISA). Second is the measuring tool, Ipeus, that facilitates the exploration of identity and is based on ISA. Third is the report that comes from a completed Ipeus instrument and which can be used both idiographically and nomothetically to identify key features of identity, including values, in individuals and groups. Ultimately it will be this report that forms the basis of the results that will be available from the use of the instrument with individuals and groups.

Identity Structure Analysis (ISA) is a comprehensive theoretical framework for the understanding of identity and represents a unique synthesis of key theorists in the area. It draws particularly on the psychodynamic approach to identification and identity development of Erikson; Kelly's Personal Construct Theory; and Festinger's ideas of cognitive/affective dissonance and consonance. Other contributory theories include Marcia's development of Erikson, the symbolic interactionism of Cooley and Mead; Goffman's dramaturgical approach; and Harre's agentic theories. Three main features of ISA and subsequently Ipeus and its reports can be traced to these three foundation theories.

One idea from Erikson is that our identity is based on a complex pattern of identifications with significant others throughout our lives. We form an identity based on positive identifications with those we wish to be like and negative identifications with those we don't wish to be like. This brings in a second key idea that of evaluation which is judging aspects of ourselves and significant others as relatively good or bad. People appraise the circumstances in which they are involved in order to bring meaning to the circumstance against the greater background of how they appraise self in relation to their social world.

A third idea from Erikson is that our identity is constantly open to change and development as we form new identifications and is subject to periodic crises when there is a mismatch or contradiction between these identifications.

Kelly's Personal Construct Theory has influenced ISA/Ipseus in two ways. First it emphasises that our identity is constructed through the ways in which dimensions of meaning called constructs are applied to the physical and social world represented by entities. Second the repertory grid approach determined the structure of the Ipeus instrument which requires respondents to apply a number of constructs chosen for their relevance to the area under investigation to entities consisting of significant others in the area and aspects of self.

Festinger’s idea of cognitive and affective dissonance or consonance underpins the dynamics in identity which move to achieve some harmony between identifications and constructions to resolve tensions and conflict.

Integrating these theories, the concept of ‘identity’ in Identity Structure Analysis is defined as

“... the totality of one’s self-construal, in which how one construes oneself in the present expresses the continuity between how one construes oneself as one was in the past and how one construes oneself as one aspires to be in the future”.

The IPSEUS Identity Measuring Instrument

An Ipseus instrument is in the form of a fairly lengthy questionnaire requiring judgements to be made by respondents regarding entities and constructs, a notion derived from Kelly’s Personal Construct Theory. It is constructed using Ipseus software available from identityexploration.com.

Typically an Ipseus instrument will consist of about 20 entities and 20 constructs. Completing the instrument requires each construct to be applied to each entity. Thus in a 20x20 instrument 400 judgements would be required.

Each item in an Ipseus instrument requires a judgement to be made of how a particular construct applies to a particular entity. An example from the instrument is given below (Figure 1).

While an Ipseus instrument has certain predetermined structural characteristics and mandatory requirements, it is primarily tailored to the particular topic being explored. Thus constructs and, to a degree, entities are selected to reflect the topic area and, particularly, the themes that the investigator wishes to explore. In this project the topic area is the professional identity and values of nurses. The themes reflect those features of this professional identity that the researchers deem important. In considering the professional identity of nurses a number of themes emerged from a literature review; from interviews; and from the judgements of an expert group. A number of qualitative judgements were involved in prioritizing these themes and selecting those that were translated into constructs for the instrument.

The area and focus of the project determined the relevant social domains and objects of thought. Thus the Nurse Identity project included domains of other nurses, associated clinicians, and patients. Each domain generates one or more entities hence ‘other clinicians’ included ‘a clinician I admire’ or ‘a clinician I would not wish to be like’. All Ipseus instruments have to include mandatory anchor entities including a past self, a present self and a future self. These might be represented as entities; ‘me as I was’; ‘me as I am at present’ and ‘me as I would like to be’.

Entities, then, describe other people and/or a setting. Constructs are represented as a pair of opposing statements on a notional dimension. Together, the entities and constructs create a series of situations or discourses to which each participant is asked to respond.

The instrument is presented through an interactive program where all the judgements are recorded. The software then processes the data regarding the judgements and yields a report where a number of variables are expressed in verbal, numerical and graphical form. The results may be used in an exploratory way or may be assessed against predictions to test out hypotheses.

The constructs and entities chosen for the Nurse Match instrument are set out in subsequent tables.

IPSEUS Report

Each judgement made by the respondents is recorded in the software which then carries out the calculations dictated by its algorithms. The software will then generate a report which shows results for the various ISA/Ipseus parameters including:

- Favoured poles of constructs
- Significance of constructs in world view
- Consistency of use of constructs
- Emotional investment in constructs
- Ego identification with entities, that is the importance attached to an entity and the understanding of it
- Evaluation of entities as relatively good or bad
- Idealistic identification with entities, that is the extent to which one wants to be like an entity
- Contra-identification with entities, that is the extent to which one does not want to be like an entity
- Empathetic identification with entities that is the extent to which one believes oneself to be like an entity
- Conflicted identification with entities that is ambivalence in identification
- Identity Diffusion that is the total of conflicted identities
- Self-evaluation

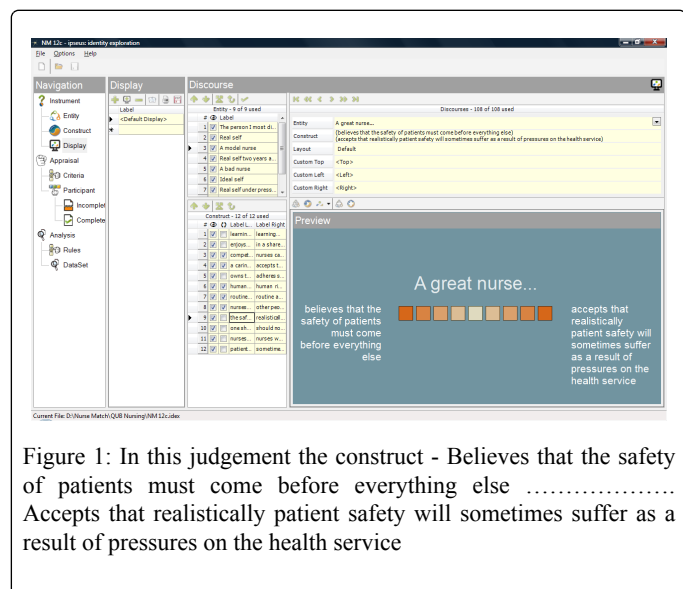


Figure 1: In this judgement the construct - Believes that the safety of patients must come before everything else Accepts that realistically patient safety will sometimes suffer as a result of pressures on the health service

Is applied to the entity - A Great Nurse

In formulating each judgement (or discourse as Weinreich calls them) the Ipseus software allows the syntax to be adjusted from the basic constructs and entities to ensure normal usage.

Each judgement of an entity using a construct are located on a nine point scale each end of which represents the opposing poles of the construct and are represented numerically as +4 and -4. The remaining seven points represent degrees of relative applicability of the construct with ranges from +3 to +1 through 0 to -1 to -3. These judgements constitute the raw data from an Ipseus instrument.

The most important parameters relating to values are those concerned with constructs including favoured pole, structural pressure and emotional significance. However, in principle, all the parameters are significant in building up an identity profile. Some of these parameters are self evident others benefit from some familiarity with

ISA. Each of these parameters is quantified and this allows comparisons of each individual response with those of other respondents and with norms. The parameters and their metrics are set out in table one below (Table 1).

Parameter	Mean	StD	Min	Low	ModLo	ModHi	High	Max
Identity Variant :								
Self Evaluation	0.00	0.00	-1.00	0.00	0.00	0.00	0.00	1.00
Identity Diffusion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Entity :								
Ego- Involvement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Evaluation	0.00	0.00	-1.00	0.00	0.00	0.00	0.00	1.00
Splits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Construct :								
Emotional Significance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
Structural Pressure	0.00	0.00	-100.00	0.00	0.00	0.00	0.00	100.00
Implications	0.00	0.00	-1.00	0.00	0.00	0.00	0.00	1.00
Identification :								
Idealistic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Contra	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Empathetic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Conflicted	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00

Table 1: Ipseus Report Data, From the Ipseus reports of a sample of respondents it is possible to report these data individually and follow an idiographic approach producing a detailed identity profile for each respondent or nomothetically producing profiles for groups of individuals and thus enabling group comparisons.

Constructing the Nurse Match Instrument

As explained above, an Ipseus instrument consists of entities and constructs selected for their relevance to the area being investigated. Completing the instrument requires a respondent to apply each of the constructs to each of the entities. On the basis of these judgements the Ipseus software then produces a report in terms of the ISA variables. This transformation from responses to parameters is carried out with the application of algorithms set out in Chapter Three of Weinreich [1].

Constructs are dimensions of thought and entities are the objects of thought for those constructing an instrument is to determine the most appropriate sets of constructs and entities. The process is to identify the relevant social domains and represent these as entities and to identify relevant themes and represent these as bipolar constructs. This process is primarily qualitative in nature and requires a number of informed decisions from those devising the instrument. We wanted the constructs in the Nurse Match instrument to reflect the values which are considered important in Nursing.

The process of constructing the Nurse Match instrument required the following steps which are standard for any Ipseus instrument. They are set out by Weinreich [14].

- Decide on the subject matter of the project, in this case the Professional Identity of Nurses
- Gather background information, using different sources to avoid crude stereotyping, from
 - the local context for the project's participants
 - the media, as in commentaries about like individuals and groups
 - fieldwork, such as discussion groups and interviews, with similar people
 - a review of 'the literature' on the subject matter, such as research reports
- List the main themes emerging from this information
- List the social domains of relevance to one or other theme
- Edit themes into phrases or discourse texts and seek out a contrast for each, so as to form two 'poles' of a 'bipolar construct'
- Use the Ipseus editing facilities to create the customised identity instrument containing the above identified themes and domains, so that, in the matrix of themes and domains, the project participant has the opportunity to appraise the relevant social world aspect by aspect

- Present the identity instrument on screen using Ipsus, one aspect at a time made up of a domain entity and the contrasting phrases.

Determining social domains and hence entities was a relatively straightforward process. An Ipsus instrument requires a number of mandatory entities related to self, which are fundamental to the framework and methodology. In addition to these mandatory elements,

entities were required which reflected the key social domains in the area of study, in this case, Nursing. Those selected are set out below. Once provisionally selected the entities have to be reviewed to ensure that each judgement required in relation to the selected constructs makes sense to the target respondents (Table 2).

e:	Label	:	Classification
01	Ideal self		Ideal Self
02	Real self		Current Self
03	Real self under pressure		Current Self
04	Real self two years ago		Past Self
05	Real self in five years time		Future Self
06	The person I most dislike		Disliked Person
07	A great nurse		Admired Person
08	A typical patient		–
09	A bad nurse		–

Table 2: Entities in the Nurse Match Instrument

The identification of themes and subsequently constructs is the most demanding part of the test construction and required a number of qualitative judgements regarding the salience of theories and constructs to the Nursing identity being studied.

For the Nurse Match instrument deciding on themes and subsequently constructs for this project involved four main processes.

A review of the literature on professional identity and values in Nursing covering the last fifteen years. (Warren 2014)

Focus Groups with practising nurses (n=30) & service users (n=10), post graduate diploma nurses in mental health (PG DIP n= 25) & third year adult mental health branch students (n=20), adult & child pre-registration nurses years two & three (n=20).

Elicitation from focus groups of Key Quality Indicators (KQIs) concerning professional identity & nursing values using “sticky note” technique.

Scrutiny of themes and constructs by two expert groups

From these four sources 109 potential themes were identified. An expert panel then sorted the themes into four categories to indicate their relative salience for Professional Identity in Nursing (PIN).

A second expert group then had the task of reducing the themes to a number nearer 20 which represented the most salient that could be used to generate around 20 bi polar constructs.

The first approach to this qualitative reduction task was to identify obvious duplications. The next stage was to validate the priority categorisations from the first group. This validation was done first by ensuring that the themes related clearly to a behavioural disposition which would be likely to impact on practice. A number did not meet this criterion. The remaining themes were then assessed for their perceived salience to the practice of nursing. There were five members in the group and the selected themes reflected a consensus between these experts. The chosen themes were then expressed as bi polar constructs.

At the end of this process a first proto instrument existed which was then checked out with the first expert group. The agreed proto instrument was then piloted with small groups of nurses to assess practicability. This identified several judgements (combinations of constructs and entities) that were difficult or impossible to make and led to the removal of some entities and inclusion of others and some modification to the wording of constructs.

The process described has produced constructs reflecting values drawn from the literature and expert judgements. The constructs thus have high face validity and, being consistent with each other and an overall notion of a good nurse, construct validity. However the instrument will now have to be put to the test to identify correlational validity with other measures or known characteristics and, over time, to show predictive validity for relevant behaviours. The chosen constructs are set out below in Table 3.

No	Bi-polar value	
1	patient dignity must come first	sometimes medical care needs come before patient dignity
2	Patient care should prevent suffering	realistically the patient may have to endure some suffering

3	the safety of patients must come before anything else	realistically patient safety may suffer as a result of pressure on staff and hospital resources
4	human rights of patients must be respected	human rights of patients may need to be set aside
5	tolerance is a most important quality in a nurse	being too tolerant can undermine the safety care and treatment of patients
6	routine and unpleasant tasks are part of everyday role of all nurses	routine and unpleasant tasks should normally be the responsibility of less skilled nurses
7	nurses work best when working closely with others in a medical team	nurses work best when their individual competence, character and decision making is encouraged
8	nurses should be capable of managing the unexpected and unpredictable	the nursing team and resources should 'expect the unexpected' and be designed to cope with it
9	competent nurses need to have good social skills	nurses can be competent even with weak social skills
10	needs to be able to influence people, get people to follow instructions	people can be difficult to influence so this is not always possible
11	learning and developing competencies should be a life long process for all nurses	learning and developing competencies is mainly for student nurses, qualified nurses mainly deliver nursing care
12	nurses need to listen carefully to tune into sense, be aware of, needs of patients and work colleagues	other people can be difficult to understand when time is short so a nurse has to cope with limited awareness
13	it is better for a nurse to be open and honest in all things	sometimes it is wiser to manage the truth in the greater interest of all concerned
14	a caring outlook requires kindness compassion and sympathy during treatment of patients	accepts that resource constraints prioritise technical over kindness compassion and sympathy
15	one should be prepared to challenge someone more senior if felt to be in the interests of the patient	should not challenge someone more senior in any circumstances
16	can be trusted to commit themselves with integrity to the task in hand	is only human, real world distractions can prevent meeting of commitments
17	enjoys making decisions within their area of competence	in a shared area of competence sometimes prefers the other person to take decisions
18	owns their work and takes personal responsibility for their judgement and action	adheres strictly to guidelines and instructions, which are at fault if things go wrong
19	one should take the time needed to do a task properly	one must be quick and do the best one can with a task in the time available
20	a nurse should be selfless and put others needs first	a nurse must bear in mind her own needs if she is to maintain a good standard of care for others
21	success for a nurse is based on hard work and commitment: 'the harder I work the luckier I get'	success is all down to chance and luck no matter how hard you work or how much you commit

Table 3: Constructs/Values in Nurse Match Instrument

Results

This article focuses on the development of an instrument to measure Nursing values and identity rather than results from the use of the instrument. However, results from a pilot use of the instrument with a small convenience sample of highly regarded nurses (n=25) are set out below as indicative of the kinds of discriminations the instrument can make.

The most salient parameters from the multivariate Ipsus reports are concerned with the ways the respondents use the 21 constructs/values. Results are described with regard to the relative importance of the individual values/constructs in the world view of the sample. Importance includes estimates of the stability (structural pressure) of the value and the feelings associated with it (emotional significance). A description of the findings about the sample's core values and

conflicted values are given. Finally data are given on the aspirations of the nurses based on their preferred construct poles.

The importance of these values and their emotional significance to this sample of respected nurses was estimated using the ISA concepts structural pressure (sp) and emotional significance (es). These concepts are designed to provide a numerical estimate of the 'weight' given to a value by a respondent and the strength of feeling associated with it.

The data obtained regarding qualitative statements describing a bipolar value are in a quantitative form which indicates its significance to the respondent. So (Table 4) we observe that our sample found construct 06 to be more useful than any other value when appraising aspects of themselves (e.g. 'real self under pressure') and others (e.g. 'a great nurse'). The sample believes that 'routine and unpleasant tasks are part of the everyday role of all nurses' and the importance of

this to the sample is estimated as sp 88.61. Emotional significance is estimated as es 9.41. The other values may be interpreted in a similar fashion.

No	Bi-polar value (group preferred pole in bold)		Sp	Es'
6	routine and unpleasant tasks are part of everyday role of all nurses	routine and unpleasant tasks should normally be the responsibility of less skilled nurses	88.61	9.41
14	a caring outlook requires kindness compassion and sympathy during treatment of patients	accepts that resource constraints prioritise technical over kindness compassion and sympathy	87.7	9.03
15	one should be prepared to challenge someone more senior if felt to be in the interests of the patient	should not challenge someone more senior in any circumstances	86.26	8.91
12	nurses need to listen carefully to tune into sense, be aware of, needs of patients and work colleagues	other people can be difficult to understand when time is short so a nurse has to cope with limited awareness	81.36	8.51
3	the safety of patients must come before anything else	realistically patient safety may suffer as a result of pressure on staff and hospital resources	74.97	7.97
17	enjoys making decisions within their area of competence	in a shared area of competence sometimes prefers the other person to take decisions	72.6	7.75
11	learning and developing competencies should be a life-long process for all nurses	learning and developing competencies is mainly for student nurses, qualified nurses mainly deliver nursing care	69.59	7.63
1	patient dignity must come first	sometimes medical care needs come before patient dignity	69.15	7.86
18	owns their work and takes personal responsibility for their judgement and action	adheres strictly to guidelines and instructions, which are at fault if things go wrong	66.52	7.23
7	nurses work best when working closely with others in a medical team	nurses work best when their individual competence, character and decision making is encouraged	64.73	7.12
4	human rights of patients	human rights of patients may need to be set aside	63.19	7.1
9	competent nurses need to have good social skills	nurses can be competent even with weak social skills	62.33	8.03
10	needs to be able to influence people, get people to follow instructions	people can be difficult to influence so this is not always possible	60.96	6.78
21	success for a nurse is based on hard work and commitment: 'the harder I work the luckier I get'	success is all down to chance and luck no matter how hard you work or how much you commit	58.45	6.6
19	one should take the time needed to do a task properly	one must be quick and do the best one can with a task in the time available	56.62	7.29
2	patient care should prevent suffering	realistically the patient may have to endure some suffering	37.3	6.43
8	nurses should be capable of managing the unexpected and unpredictable	the nursing team and resources should 'expect the unexpected' and be designed to cope with it	33.34	6.35
5	tolerance is a most important quality in a nurse	being too tolerant can undermine the safety care and treatment of patients	32.79	5.69
16	can be trusted to commit themselves with integrity to the task in hand	is only human, real world distractions can prevent meeting of commitments	30.81	6.32
13	it is better for a nurse to be open and honest in all things	sometimes it is wiser to manage the truth in the greater interest of all concerned	13.87	5.68
20	a nurse should be selfless and put others needs first	a nurse must bear in mind her own needs if she is to maintain a good standard of care for others	1.98	5.61

Table 4: Highly regarded nurses: values; importance (sp), affect (es) and choice of pole

The instrument is able to discriminate between individual bi-polar value. The set of nursing values can then be used to respondents because each will chose a unique combination of characterise a nurse's belief system. preferred pole, weight (sp) and emotional significance (es) applied to a

In order to manage this discrimination process more easily the scores (estimates) are named and classified according to their standard deviation (SD) from the mean (Table 5).

Significance	Classification of sp score	Comment on implications for value
High (H)	> 1 SD above the mean	High core, pressured, 'immutable'
Moderately (MH)	> 1/3 SD < 1 SD above the mean	Very stable core
Moderate (M)	1/3 SD on each side of the mean	Valuable stable secondary
Moderately Low (ML)	>1/3 SD below the mean < 1 standard deviation	Less stable more conflicted
Low (L)	> 1 SD below the mean	Even more conflicted then contradictory

Table 5: Significance of a value to an individual: classification

Description of the Sample's Values

Our sample of respected nurses used five really important (Medium/High) core values to appraise themselves and others and make sense of life as a nurse. Using their preferred values these are: routine and unpleasant tasks are part of everyday role of all nurses; a caring outlook requires kindness compassion and sympathy during treatment of patients; one should be prepared to challenge someone more senior if it is felt to be in the interests of the patient; nurses need to listen carefully to tune into and be aware of the needs of both patients and work colleagues; and the safety of patients must come before anything else.

There is evidence of doubt about the importance of the bottom six values (Moderately Low and Low). Increasing in degree of conflicted uncertainty are: patient care should prevent suffering, the nursing team and resources should 'expect the unexpected' and be designed to cope with it, tolerance is a most important quality in a nurse, can be trusted to commit themselves with integrity to the task in hand, and most conflicted of all, it is better for a nurse to be open and honest in all things and a nurse should be selfless and put others needs first.

At this stage Ipsus Reports including construct and hence value orientation, and Identity Profiles have been collected from a sample of experienced and respected nurses. Preliminary patterns in these reports have been identified that characterise experienced nurses. And these can be compared with results for applicants to programmes or students nurses. The degree of match could be an indicator of the suitability of an applicant for a nursing programme or the progress of a student in a programme.

Next Steps

The next phase of the project is to follow established psychometric procedures to develop and field test the instrument and to standardise it as a valid, reliable and feasible tool. The instrument and its reporting procedures will then be developed using dedicated software to make it fit for purpose as a selection and development device.

The instrument will now be used on a sample of 200 nursing students in a preregistration programme who will also be assessed using an experimental Multiple Mini Interview (MMI) procedure. Data are also available on these students from their initial selection interview and their results in their programme including the assessment of their clinical practice. Correlational analyses will reveal

relationships between the scores on Nurse Match and other tests of values and demonstrations of inferred values.

Following these correlational studies it will be possible to review constructs for their discriminatory power and the instrument may be modified further.

The instrument will then be used on a sample of 200 experienced and respected practitioners to identify expert identity profiles.

The reporting output of the instrument will then be refined to facilitate its use in recruitment where value profiles will allow comparison with expert profiles.

The instrument will then be developed for use in progress monitoring in initial and post registration programmes.

Conclusion

This paper has described the process of developing an instrument to measure professional identity and values in nurses and to allow the match between the identity profiles and values of applicants to nursing and nursing students with those of experienced and respected nurses.

It has highlighted the importance of conceiving nursing values as an aspect of identity; selecting a theoretically eclectic approach to identity; adopting a sophisticated methodology for identity exploration and measurement; and of constructing an instrument within that methodology.

It is clear that the current drive to measure nursing values and hence identity requires an in depth approach both conceptually and methodologically. Identity Structure Analysis and its associated Ipsus Instrument represent such an approach providing a unique integration of qualitative and quantitative parameters.

Initial results from the use of the instrument suggest it has a useful discriminatory power. Further work will explore the correlational and predictive validity of the instrument and develop its use in recruitment and in charting development in pre registration and post registration education.

The instrument has been constructed on the basis of a partnership between Identity Exploration Ltd and a number of Nursing Departments in Higher Education. Any readers interested in participating in such a partnership to further develop and trial the instrument would be welcome to contact one of the authors.

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