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1 **Using audio-visual vignettes to explore how critical care nurses make the decision to restrain a**
2 **patient with psychomotor agitation.**

3 **Abstract**

4 **Background**

5 Vignettes are used regularly in nursing research and education to facilitate the exploration of
6 complex clinical situations. However, paper-based vignettes lack clinical realism and do not fully
7 recreate the pressures, sights, and sounds of the clinical setting, limiting their utility for studying
8 complex decision-making processes.

9 This paper describes the process through which audio-visual vignettes were created for a qualitative
10 Think Aloud study. The study used vignettes to explore how critical care nurses make decisions to
11 restrain patients with varying degrees of psychomotor agitation.

12 **Aim**

13 To discuss the approach taken to develop and implement audio-visual vignettes as a remote data
14 collection tool in a qualitative study.

15 **Discussion**

16 The authors discuss how they developed a series of audio-visual vignettes to enable them to explore
17 the complex decision-making process undertaken by critical care nurses prior to using restraint to
18 manage an agitated patient. The practicalities of filming, editing and hosting are described, alongside
19 discussion of the theoretical and clinical background which informed the creation of the vignettes.

20 **Conclusion**

21 Audio-visual vignettes are a cost and time-effective way of exploring decision making remotely in
22 challenging environments. This innovative method facilitates the study of decision-making under
23 simulated clinical pressures and captures data about how complex decisions are made.

24 **Implications for practice and future research**

25 Audio-visual vignettes are an innovative data collection tool for researchers and have potential for
26 use in educational settings. They offer the opportunity to explore complex clinical decision making
27 remotely. Clinical accuracy is essential for participant immersion and simulation of the environment
28 and its pressures. The method could be further enhanced through making the vignettes responsive
29 to participant decisions.

30

31 **Introduction**

32 Finch (1987) described vignettes as 'short stories about hypothetical characters in specified
33 circumstances, to whose situation the interviewee is invited to respond' (pg 105). Within these
34 circumstances, vignettes allow the exploration of participants' beliefs, attitudes, judgements, and
35 perceptions (Spalding and Phillips, 2007, Stacey et al., 2014). Vignettes have been increasingly used
36 in healthcare education, research, and in the development of clinical decision pathways (Brauer et
37 al., 2009). Vignettes or scenarios have been identified as a novel data collection method, which can
38 produce rigorous and actionable data (Ramirez et al., 2015). They allow the researcher to work

1 through complex clinical realities and aim to provide an immersive decision-making environment to
2 facilitate study of decision-making processes without causing disruption to patient care.

3 Two main methods of vignette development have been identified (Brauer et al., 2009): the first is
4 the factorial method. Here vignettes are created to describe all the possible combinations seen in a
5 given circumstance or problem. This approach can be used to produce quantitative data about
6 variables involved in decision making. The second method involves storytelling, where typical
7 scenarios are created by the researcher (Finch, 1987). The second method is more commonly found
8 in qualitative studies and offers the opportunity to explore the decision-making process
9 qualitatively. This approach was chosen for the study described in this paper.

10 Vignettes can be presented in written, audio, or audio-visual formats. Written scenarios are more
11 common in healthcare research and education (Brauer et al., 2009). They are easy and cost-effective
12 to produce. However, they struggle to reproduce the sights, sounds and pressures of clinical practice
13 and, as such, lack accuracy and realism. The development of audio-visual vignettes for a research
14 project may appear to be a challenge. This paper presents a comprehensive account of how the
15 authors created the vignettes, from the under-pinning decision-making theory through to filming,
16 editing, and hosting.

17

18 **Development of the vignettes**

19 **Background to the study**

20 In critical care, patients with psychomotor agitation are at risk of disrupting life-sustaining therapies,
21 for example through dislodging an endotracheal tube or vascular access device. Chemical or physical
22 restraint are often cited by staff as the main method of preserving patient safety (Benbenbishty et
23 al., 2010). However, the efficacy of both forms of restraint in improving patient safety is unproven
24 and its use is associated with impaired long-term recovery (Ai et al., 2018, Pan et al., 2018).

25 Nurses appear to be the primary decision makers in applying restraint in critical care settings.
26 However, little is known about the cognitive processes and influencing factors which lead to this
27 decision (Teece et al., 2020). In order to capture these processes and explore how nurses make the
28 decision to restrain a patient, filmed audio-visual vignettes, informed by cognitive continuum theory
29 (Hamm, 1988) and expert knowledge, were developed, hosted on YouTube and implemented using
30 a Think Aloud (Ericsson and Simon, 1980) approach.

31 **Study design**

32 Think Aloud is a qualitative methodology which enables researchers to capture the problem-solving
33 and decision-making activities used by participants as they perform a given simulated task. Think
34 Aloud has been previously used in studies based in critical care (Han et al., 2007, Aitken et al., 2009).
35 The method was proposed by Ericsson and Simon (1980) and enables the capture of sequential
36 thought processes, as participants talk through their decision-making process in respect of a specific
37 clinical scenario. The method is appropriate for use with audio-visual vignettes as it captures
38 decisions made in response to visual cues. This method is differentiated from video reflexive
39 ethnography through its focus on remote constructed scenarios rather than actual clinical practice
40 (Ajjawi et al., 2020). The vignettes were created to provoke decisions relating specifically to the
41 management of psycho-motor agitation and place participants in a 'once removed' position where
42 they are not actually engaged in practice. The decisions made by participants in the vignettes are
43 informed by their clinical practice and may lead to reflections on their lived experiences of such

1 situations. However, in contrast to video reflexive ethnography, participants are not filmed
2 undertaking actual clinical practice.

3 Think Aloud is largely led by the participant, with the researcher acting as a guide and prompt to
4 encourage the process. Participants were encouraged to think aloud by the interviewer through
5 prompts such as 'please continue' or questions which asked the participant to elaborate on what
6 they had just said. Questions focussed on three main issues and were intended to guide the Think
7 Aloud process and ensure a comprehensive discussion of the decision-making process.

- 8 • How nurses perceived and assessed the behaviour of a delirious patient.
- 9 • How the working environment impacted on their management.
- 10 • If and why they made the decision to apply chemical or physical restraint or chose an
11 alternative method of managing the patient.

12 The study aimed to explore how critical care nurses make the decision to restrain a patient with
13 psychomotor agitation. Such decisions are made under pressure, with the nurse aiming to preserve
14 patient, nurse and device safety. It was felt written scenarios would not facilitate clinically accurate
15 judgements and decisions as they would allow the participant time to reflect and consider. The
16 decision was made to film dedicated audio-visual vignettes because they offered a higher level of
17 realism than written case studies, without the potential patient harm and clinical disruption which
18 could occur if an observational study was undertaken. Showing a visual representation of agitated
19 patients with varying degrees of clinical complexity was intended to place the nurse under pressure
20 to make a decision regarding their choice of clinical intervention. This was hoped to reduce the
21 possibility of responses rooted in social desirability bias. Audio-visual vignettes represent a
22 pragmatic approach to the choice of a data collection tool. The resources required and associated
23 cost of developing audio-visual vignettes is greater than of a written vignette. However, audio-visual
24 vignettes remain relatively low-cost and, once filmed, can be viewed and used repeatedly. In
25 addition, such vignettes are able to replicate the clinical environment without causing disruption,
26 and offer a flexible remote method for describing and understanding complex decision making
27 (Brauer et al., 2009).

28 **Ethical considerations**

29 This study received approval from the University of Leeds School of Healthcare Ethics Committee.
30 The patients in the vignettes were portrayed by members of School of Healthcare staff who
31 volunteered in response to an email invitation. The patients portrayed were fictitious.

32

33 **Results and discussion**

34 **Creating the vignettes**

35 Six patient scenarios were developed. Each patient had a past-medical history which reflected cues
36 drawn from an integrative review focussed on factors leading to the decision to apply restraint in the
37 critical care unit (Teece et al., 2020). A summary of the vignettes and included cues is presented in
38 table 1. All patients portrayed aspects of behaviour associated with psycho-motor agitation or
39 hyperactive delirium as described by the validated CAM-ICU tool (Ely et al., 2001). The context was
40 made clear through the use of props, such as infusion devices and monitoring, which mimicked the
41 set-up of an critical care bed area (Cooksey, 1996). Each vignette was written to last approximately
42 three minutes. This duration was chosen because it was deemed sufficient to include the cues for

1 restraint assigned to each vignette. In addition, the patient is alone in the video. As critical care
2 patients are closely observed in practice it was decided that a vignette depicting unsupervised
3 agitated behaviour for longer than 3 minutes could become clinically inaccurate and break
4 participant immersion.

5 The vignettes were developed with the aim of eliciting reactions and decisions from the participants.
6 They were based on reflection on clinical practice, theories around nursing responses to 'unpopular'
7 patients (Carveth, 1995), cognitive continuum theory (Hamm, 1988), and the results of the
8 integrative review undertaken as background to this study (Teece et al., 2020). The review identified
9 cues leading to restraint, such as the presence of invasive devices, reduced nurse to patient ratios,
10 and patient behaviour which could risk device displacement (Teece et al., 2020). The Cognitive
11 Continuum Theory (Hamm, 1988) proposes a range of modes of inquiry, with analytical thinking and
12 intuition placed at opposite ends of the continuum. Analytical thinking is slower and more conscious
13 than rapid, automatic decisions. A nurse can draw upon both modes concurrently or separately.
14 Tasks are described in parallel to the continuum, ranging from well-structured to ill-structured.
15 Hamm (1988) suggests that nurses adapt their decision-making method to the task being
16 considered. This theory informed the creation of the vignettes through prompting the inclusion of
17 opportunities to think analytically and intuitively through the cues presented.

18 Each vignette contained a variety of 'cues' which had been identified as potentially leading to
19 restraint (Teece et al., 2020). Through the inclusion of these cues, the authors aimed to study how
20 different participants reacted and the clinical decisions they made in response to each cue. For
21 example, invasive lines or oral intubation were associated with restraint (Teece et al., 2020). Various
22 cues were deliberately included in the vignettes to reflect a range of risk inferences and patient
23 types and behaviours. For example, some patients were self-ventilating (low risk if treatment
24 disrupted through agitation), whilst some were mechanically ventilated with invasive lines in-situ.
25 These could be life-threatening if disrupted.

26 Vignettes are commonly rooted in the reflections of the researcher on their own practice or
27 experience. This lends vignettes elements of descriptive detail and face validity, but can also
28 increase the risk of researcher bias (Brauer et al., 2009). The vignettes developed for this study were
29 drawn from the clinical experience of the author (AT) and the results of an integrative review of
30 factors leading to restraint in critical care (Teece et al., 2020). An accurate representation of the
31 environment under study is necessary to achieve face validity (Braun and Clarke, 2013). The patients
32 depicted in the vignettes were fictitious but represent the variety of patients encountered in a
33 general adult critical care setting and reflect common reasons for admission. They include a patient
34 who was involved in a road traffic accident with a background of smoking and alcohol excess, and a
35 patient who has undergone emergency repair of a ruptured AAA and is ready for weaning from the
36 ventilator and extubation. A complete description of each vignette is included in Table 1.

37 To ensure content validity and minimise the risk of researcher bias, all six vignettes were reviewed
38 by an independent critical care expert. The vignettes were checked for clinical accuracy and to
39 ensure the patient behaviours were plausible. Accuracy is essential to optimise participant
40 immersion in the vignette and elicit realistic responses. All six vignettes were approved by the
41 clinical expert.

42 **Storyboards & actors**

43 An illustrated storyboard was created for each vignette (Figure 1). This depicted detail about the
44 camera position, patient attachments and the sequential development of patient behaviour over the

1 course of the three-minute vignette. These were designed to guide simulated patient behaviours
2 and ensure that portrayed behaviours did not deviate from those identified previously in the
3 background review (Teece et al., 2020).

4 Rather than employing actors, internal School of Healthcare staff were recruited to appear in the
5 vignettes. All had healthcare experience, and some had worked in critical care. To ensure they
6 understood the behaviours which they would depict, a thorough briefing was given prior to filming.
7 Academic staff who had volunteered to portray 'patients' used the illustrated storyboards to guide
8 how they would portray the patient whilst being filmed. This ensured that behaviour did not deviate
9 from the vignette design.

10 **Scripting handover**

11 A handover was scripted and recorded for each vignette. The handover was given verbally prior to
12 the vignette beginning and followed the format of a typical critical care handover as delivered by
13 author in practice. The handover provided information about the presenting complaint, past medical
14 history, respiratory and haemodynamic status, and some comments about the patient's behaviour.
15 Each vignette was introduced by either a subjective handover, which used descriptive terms to judge
16 the patient's behaviour, or an objective handover, which used validated tools to present an
17 assessment of delirium status and sedation level. The purpose of this was to explore whether and to
18 what extent handover style impacted on the management decisions made by the receiving nurse.

19 Nursing handover facilitates the sharing of judgements of dysfunctional or deviant patient behaviour
20 (Carveth, 1995). Subjective terms such as 'mad', 'poorly behaved', and 'not a proper patient' can be
21 used by nurses to describe behaviours caused by hyperactive delirium despite the existence of
22 objective tools such as the Richmond Agitation and Sedation Scale (RASS) and Confusion Assessment
23 method for the ICU (CAM-ICU). Once a consensus is reached amongst nurses, biases and labels can
24 be established and shared (Carveth, 1995). Handovers based on personal (subjective) rather than
25 objective evaluations can allow biases to pervade the staff group (Johnson and Webb, 1995). Patient
26 identity can be constructed in handover before staff meet the patient. This could cloud and
27 influence a nurse's view of that patient and prevent an objective assessment. Thus, a label can
28 become permanent through being repeatedly communicated and leads to an assumption of poor or
29 'difficult' behaviour in the labelled patient (Carveth, 1995). For example, a patient in one of the
30 vignettes was described as a 'frequent flyer' having been admitted on previous occasions for
31 deliberate self-harm. The intention was to see if the negative subjective descriptor impacted on the
32 nurse's judgement and decision making. Other patients were described using tools such as CAM-ICU.
33 Such a tool was used as an objective descriptor with numbers conveying the level of agitation, rather
34 than to convey a personal judgement regarding the patient.

35 Agitated patients are often seen as an unpopular and challenging allocation in critical care (Zamoscik
36 et al., 2017). The idea of the unpopular patient was first proposed by Stockwell (1972) based on a
37 patient displaying 'deviant' behaviour, which departs from the norm expected by staff. Deviant
38 behaviour can be anything deemed to be atypical or undesirable (Carveth, 1995). Perceived deviant
39 behaviour leads the patient to be labelled as 'unpopular' by staff, and can reduce staff engagement
40 with that patient (Michaelsen, 2012). Psychomotor agitation, although not uncommon in critical
41 care, marks a departure from the compliant sedated and ventilated patient. These patients are
42 widely considered by staff to be a 'proper' or genuine critical care patient (Williams, 2007). This
43 label is harmful as it devalues vulnerable patients through its suggestion that they do not deserve a
44 critical care bed (Lowbridge and Hayes, 2013). This is further emphasised by the practice of
45 allocating junior staff to such patients (Williams, 2007), suggesting that they do not require expert

1 nursing care. These ideas were used as potential cues to prompt decision-making the in handovers.
2 The impact of subjective and objective handovers would be explored further when the data from the
3 study was analysed.

4 **Filming & editing**

5 The vignettes were filmed by a University videographer in the School of Healthcare clinical skills
6 suite. A bed area was set up to replicate a critical care bed-space. Pumps, bags of fluid, monitoring
7 and appropriate medical devices were placed around the bed area and attached to the simulated
8 patients as required for each vignette. Each vignette was shot from a 'nurse's eye view' perspective,
9 as if the nurse was seated at the front of the bed area (Figure 2). This is typically where critical care
10 nurses sit to write notes and chart patient observations and was therefore considered to be the
11 optimal place from which the nurse could observe their simulated patient and describe the clinical
12 management decisions they would take.

13 Audio was recorded via microphones on two channels. The first channel was the verbal handover
14 which was read aloud by the author (AT) at the start of each vignette. The second channel captured
15 patient vocalisation if appropriate and ambient noise such as the rustling of sheets. Further
16 background noise was added in editing. This included monitor alarms, muffled voices, footsteps and
17 ventilator alarms if appropriate to the patient presentation. These sound effects were accessed free
18 of charge via YouTube's creative commons licence. The addition of further ambient noise aimed to
19 increase clinical realism and aid participant immersion.

20 The vignettes were deliberately broken up into segments in editing, with pause cards (a blank screen
21 with the instruction 'Pause Now') inserted to indicate the times for semi-structured discussion to
22 occur remotely. The breaking up of the vignettes draws on the educational theory of 'chunking'
23 (Gobet et al., 2001). Chunking occurs when information is organised in the memory of the
24 participant. A chunk is a collection of information segments which have strong associations with
25 each other (Gobet et al., 2001). The aim of using chunks and segmenting the vignettes in this way
26 was twofold. Firstly, there was a concern that nuanced cues might be missed if discussion was
27 conducted concurrently with the vignette playing. Secondly, the use of chunks increases the amount
28 of information that can be held in short-term memory (Gobet et al., 2001). This is because similar
29 information and cues, for example device interference, is grouped together rather than being held in
30 the memory as individual pieces of information (Gobet et al., 2001). Therefore, breaking up the
31 vignettes to promote chunking enables participants to retain a greater amount of information about
32 the patient and their rationales for their decisions.

33 The edited vignettes were uploaded to the researcher's YouTube channel. The channel and vignettes
34 were marked as 'unlisted'. This prevented the videos being searched by title or hashtag. They can
35 only be accessed via a direct URL. The URL was sent to participants via email ten minutes prior to the
36 interview beginning. This decision was made to prevent participants viewing the vignettes prior to
37 their interview and ensured that participants' judgements and decisions were immediate and
38 unrehearsed. YouTube is an easy and cost-effective way to host audio-visual vignettes. It allowed
39 both researcher and participant to access and view the vignettes concurrently during the interview.

40

41 **Challenges & benefits of using audio-visual vignettes in qualitative research and education**

42 Audio-visual vignettes are a flexible and relatively low-cost method to explore decision making in a
43 replicated clinical environment. Once filmed, the vignettes can be used repeatedly in research or

1 educational projects such as simulated practice. The vignettes described in this paper were filmed
2 with the purpose of researching how critical care nurses made complex clinical decisions. However,
3 audio-visual vignettes could also be used in pre or post-registration teaching when discussing
4 management strategies for clinical situations. Audio-visual vignettes could be especially useful in
5 simulating clinical situations where teaching or observational research might disrupt clinical practice
6 or compromise patient safety. This is especially important in the critical care setting, where nurses
7 make frequent management decisions based on their assessments of rapidly changing clinical
8 situations with high risk inference. In addition, the use of simulated patients avoids the risk of
9 comprising patient anonymity which must be considered when undertaking direct observation in
10 clinical areas.

11 University and clinical education alongside research have been disrupted by the COVID-19 pandemic
12 and subsequent social distancing measures. Internet-hosted audio-visual vignettes offer a pragmatic
13 of remote engagement with students and research participants to explore complex areas of practice.
14 Clinical practice has seen increased acuity, with staff being relocated to support clinical areas which
15 are experiencing high pressures. Vignettes such as those used in this study could be a useful tool in
16 providing induction and education to staff working in unfamiliar clinical areas. The vignettes are
17 pragmatic and inclusive. They can be viewed remotely at a time and location convenient to
18 participant and researcher or educator.

19 Participants involved in the study for which these vignettes were created commented positively on
20 the clinical realism of the vignettes and described how they felt pressure to make a decision to
21 preserve patient safety and manage an escalating clinical situation. Additionally, participants
22 reported that the situations depicted in the vignettes acted as a stimulus for personal reflection on
23 clinical practice. However, some participants were frustrated by the linear nature of the vignettes.
24 Their decisions did not impact on patient behaviours and this was reported to reduce realism, with
25 participants anecdotally commenting that 'it wouldn't have got to this stage' because they believed
26 that their previous decisions would have mitigated the level of agitation. This feedback could be
27 considered in future adaptations of the method through the creation of vignettes which would alter
28 in response to participant decisions.

29 Audio-visual vignettes aim to present realistic clinical sights and sounds and attempt to simulate the
30 pressures of making decisions in clinical environments. To ensure participant immersion, the
31 scenario presented must be as clinically realistic as possible. This may pose a challenge if a suitable
32 filming venue, props and actors are not available.

33

34

35 **Implications for practice and future research**

36 Audio-visual vignettes are a novel and innovative method of collecting qualitative data. They offer
37 researchers the opportunity to explore the behaviour of clinicians in complex situations without
38 causing disruption to practice or patient care. Once recorded, audio-visual vignettes can be reused
39 either remotely or face-to-face and are both cost and time-effective as a result. YouTube-hosted
40 vignettes are accessible and facilitate remote data collection. They could also be easily used in
41 educational settings to present complex clinical scenarios. However, linear vignettes, such as those
42 used for this study, are limited by their lack of responsiveness to participant decision making.
43 Researchers and educators may wish to build this capability into their own vignettes.

1 **Conclusion**

2 Audio-visual vignettes have the potential to form an effective and innovative part of qualitative
3 research and educational practice. They are flexible and time-efficient, and can be hosted online to
4 facilitate remote delivery of education or for use in research studies.

5 This paper provides an account of the development and implementation of vignettes in a Think
6 Aloud study which aimed to explore complex decision-making in a critical care environment. The
7 account is intended to guide and inspire other researchers or educators who are interested in
8 developing innovative and creative methods in nursing or other healthcare disciplines.

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1 **References**

- 2 AI, Z.-P., GAO, X.-L. & ZHAO, X.-L. 2018. Factors associated with unplanned extubation in the
3 Intensive Care Unit for adult patients: A systematic review and meta-analysis. *Intensive &*
4 *Critical Care Nursing*, 47, 62-68.
- 5 AITKEN, L. M., MARSHALL, A. P., ELLIOTT, R. & MCKINLEY, S. 2009. Critical care nurses' decision
6 making: Sedation assessment and management in intensive care. *Journal of Clinical Nursing*,
7 18, 36-45.
- 8 AJJAWI, R., HILDER, J., NOBLE, C., TEODORCZUK, A. & BILLET, S. 2020. Using video-reflexive
9 ethnography to understand complexity and change practice. 54, 908-914.
- 10 BENBENBISHTY, J., ADAM, S. & ENDACOTT, R. 2010. Physical restraint use in intensive care units
11 across Europe: The PRICE study. *Intensive Crit Care Nurs*, 26, 241-245.
- 12 BRAUER, P. M., HANNING, R. M., AROCHA, J. F., ROYALL, D., GOY, R., GRANT, A., DIETRICH, L.,
13 MARTINO, R. & HORROCKS, J. 2009. Creating case scenarios or vignettes using factorial study
14 design methods. *JOURNAL OF ADVANCED NURSING*, 65, 1937-1945.
- 15 BRAUN, V. & CLARKE, V. 2013. *Successful qualitative research: a practical guide for beginners*, Los
16 Angeles, SAGE.
- 17 CARVETH, J. A. 1995. Perceived Patient Deviance And Avoidance by Nurses. *Nursing Research*, 44,
18 173-178.
- 19 COOKSEY, R. W. 1996. *Judgment analysis: theory, methods, and applications*, London;San Diego;,
20 Academic Press.
- 21 ELY, E. W., MARGOLIN, R., FRANCIS, J., MAY, L., TRUMAN, B. & DITTUS, R. 2001. Evaluation of
22 delirium in critically ill patients: validation of the Confusion Assessment Method for the
23 Intensive Care Unit (CAM-ICU). *Crit Care Med*, 29.
- 24 ERICSSON, K. A. & SIMON, H. A. 1980. Verbal reports as data. *Psychological Review*, 87, 215-251.
- 25 FINCH, J. 1987. The vignette technique in survey research. *Sociology*, 21, 105-114.
- 26 GOBET, F., LANE, P. C. R., CROKER, S., CHENG, P. C. H., JONES, G., OLIVER, I. & PINE, J. M. 2001.
27 Chunking mechanisms in human learning. *Trends in Cognitive Sciences*, 5, 236-243.
- 28 HAMM, R. M. 1988. Clinical intuition and clinical analysis expertise
29 and the cognitive continuum. In: DOWIE, J. & ELSTEIN, A. (eds.) *Professional judgment: a reader in*
30 *clinical decision making*. Cambridge: Cambridge University Press.
- 31 HAN, K.-J., KIM, K., KIM, D.-O. D., KIM, M.-J., KIM, H. S., KIM, H., HONG, K.-J., PARK, S., YUN, S.-N.,
32 SONG, M., JUNG, Y. & CHOI, H. 2007. Thinking in Clinical Nursing Practice: A Study of Critical
33 Care Nurses' Thinking Applying the Think-Aloud, Protocol Analysis Method. *Asian Nursing*
34 *Research*, 1, 68-82.
- 35 JOHNSON, M. & WEBB, C. 1995. REDISCOVERING UNPOPULAR PATIENTS - THE CONCEPT OF SOCIAL
36 JUDGMENT. *JOURNAL OF ADVANCED NURSING*, 21, 466-475.
- 37 LOWBRIDGE, K. L. & HAYES, L. 2013. The unpopular patient. *British Journal of Nursing*, 22, 448-448.
- 38 MICHAELSEN, J. J. 2012. Emotional distance to so - called difficult patients. *Scandinavian Journal of*
39 *Caring Sciences*, 26, 90-97.
- 40 PAN, Y., JIANG, Z., CHANGRONG, Y., WANG, L., ZHANG, J., ZHOU, J., TAO, M., QUAN, M. & WU, Q.
41 2018. Influence of Physical Restraint on Delirium of Adult Patients in ICU: A Nested Case-
42 Control Study. *Journal of Clinical Nursing*, 27, 1950-1957.
- 43 RAMIREZ, R., MUKHERJEE, M., VEZZOLI, S. & KRAMER, A. M. 2015. Scenarios as a scholarly
44 methodology to produce "interesting research". *Futures*, 71, 70-87.
- 45 SPALDING, N. J. & PHILLIPS, T. 2007. Exploring the Use of Vignettes: From Validity to
46 Trustworthiness. *Qualitative Health Research*, 17, 954-962.
- 47 STACEY, D., BRIÈRE, N., ROBITAILLE, H., FRASER, K., DESROCHES, S. & LÉGARÉ, F. 2014. A systematic
48 process for creating and appraising clinical vignettes to illustrate interprofessional shared
49 decision making. *Journal of Interprofessional Care*, 28, 453-459.
- 50 STOCKWELL, F. 1972. *The unpopular patient*, London Royal College of Nursing.

1 TEECE, A., BAKER, J. & SMITH, H. 2020. Identifying determinants for the application of physical or
2 chemical restraint in the management of psychomotor agitation on the critical care unit. *J*
3 *Clin Nurs*, 29, 5-19.

4 WILLIAMS, C. 2007. Unpopular patients in the intensive care unit: is holistic care achievable? *Nursing*
5 *in Critical Care*, 12, 59-60.

6 ZAMOSCIK, K., GODBOLD, R. & FREEMAN, P. 2017. Intensive care nurses' experiences and
7 perceptions of delirium and delirium care. *INTENSIVE AND CRITICAL CARE NURSING*, 40, 94-
8 100.

9