一、試就 Stern（2022）論文簡答以下問題（15分）：

1. 本文作者依據什麼機構的版本來定義 patient-reported outcome measures（PROMs）?（5分）
2. 試述「以價值為基礎的健康照顧」趨勢下，「品質評量」（quality measurement）的焦點是什麼？（5分）
3. 試述健康照顧體系中所謂的「價值」（value）是指什麼？（5分）

出處：Stern, B. Z. (2022). Clinical Potential of Patient-Reported Outcome Measures in Occupational Therapy. The American Journal of Occupational Therapy, 76(2).

Patient-reported outcome measures (PROMs) feature prominently in the contemporary dialogue on measurement in health care reform. PROMs are self-report assessments that capture directly from patients1 their perspective of their health status, such as symptoms, function, and health-related quality of life (Food and Drug Administration, 2009). Although PROMs originated in research contexts, thoughtful applications in clinical care can advance value for occupational therapy patients and the profession. In this column, I highlight the clinical potential of PROMs to encourage their routine collection and use by occupational therapy practitioners. First, I position PROMs within value-based health care and provide an overview of emerging applications for individual patient care. Next, I introduce the clinical advantages of a specific measurement system: the PatientReported Outcomes Measurement Information System (PROMIS). I then reflect on challenges to meaningful and equitable measurement and conclude with implications for the profession. Patient-Reported Outcome Measures in Value-Based Health Care Value-based health care emphasizes achievement of optimal health outcomes rather than volume of services. To align with value, quality measurement is shifting from process measures focused on clinicians' actions (e.g., percentage of patients receiving a fall risk assessment) to outcome measures focused on results experienced by patients (e.g., percentage of patients with improved physical function). The transition to value has spurred conversations about what outcomes are most meaningful to capture. Value has been defined as the health outcomes that matter to patients relative to the costs of care (Porter & Lee, 2013). Patient-centeredness as a fundamental component of health care quality is not new (Committee on Quality of Health Care in America, 2001). However, the Patient Protection and Affordable Care Act of 2010 (Pub. L. 111-148) accelerated its translation into practice (Mroz et al., 2015). To reflect outcomes that matter to patients, regulators are integrating PROMs into quality metrics and alternative payment models (Centers for Medicare & Medicaid Services, 2021; National Quality Forum, 2021). Amplification of the patient's voice in quality measurement aligns with a long-standing tradition of clientcenteredness in occupational therapy practice (Mroz et al., 2015).

二、請閱讀以下摘要，再回答下列問題。（15分）
問題1：請以英文描述此摘要最合適之主題（此論文之 title）
問題2：請以中文說明為何需要從事此研究之緣由
問題3：請以中文說明 novel robot-based assessment of sensory processing 之施測內容
問題4：作者如何 "validate" the novel robot-based sensory processing assessment

見背面

Abstract

Upper limb sensory processing deficits are common in the chronic phase after stroke and are associated with decreased functional performance. Yet, current clinical assessments show suboptimal psychometric properties. Our aim was to develop and validate a novel robot-based assessment of sensory processing. We assessed 60 healthy participants and 20 participants with chronic stroke using existing clinical and robot-based assessments of sensorimotor function. In addition, sensory processing was evaluated with a new evaluation protocol, using a bimanual planar robot, through passive or active exploration, reproduction and identification of 15 geometrical shapes. The discriminative validity of this novel assessment was evaluated by comparing the performance between healthy participants and participants with stroke, and the convergent validity was evaluated by calculating the correlation coefficients with existing assessments for people with stroke. The results showed that participants with stroke showed a significantly worse sensory processing ability than healthy participants (passive condition: $p = 0.028$, Hedges' $g = 0.58$; active condition: $p = 0.012$, Hedges' $g = 0.73$), as shown by the less accurate reproduction and identification of shapes. The novel assessment showed moderate to high correlations with the tactile discrimination test: a sensitive clinical assessment of sensory processing ($r = 0.52\text{-}0.71$). We conclude that the novel robot-based sensory processing assessment shows good discriminant and convergent validity for use in participants with chronic stroke.

三、請閱讀以下論文摘要，並以中文，回答以下問題。（15分）

1. 依據本文描述，目前各國特定年齡層的失智症發生率是上升還是下降？推測導致變化的原因為何？
2. 請扼要以中文陳述下句 "Together the 12 modifiable risk factors account for around 40% of worldwide dementias, which consequently could theoretically be prevented or delayed."
3. 請扼要以中文陳述，文中指出針對哪些對象進行失智症預防介入，可以獲得最大的效益？

Dementia prevention, intervention, and care: 2020 report of the Lancet Commission

The number of older people, including those living with dementia, is rising, as younger age mortality declines. However, the age-specific incidence of dementia has fallen in many countries, probably because of improvements in education, nutrition, health care, and lifestyle changes. Overall, a growing body of evidence supports the nine potentially

接 次 頁

modifiable risk factors for dementia modelled by the 2017 Lancet Commission on dementia prevention, intervention, and care: less education, hypertension, hearing impairment, smoking, obesity, depression, physical inactivity, diabetes, and low social contact. We now add three more risk factors for dementia with newer, convincing evidence. These factors are excessive alcohol consumption, traumatic brain injury, and air pollution. We have completed new reviews and meta-analyses and incorporated these into an updated 12 risk factor life-course model of dementia prevention. Together the 12 modifiable risk factors account for around 40% of worldwide dementias, which consequently could theoretically be prevented or delayed. The potential for prevention is high and might be higher in low-income and middle-income countries (LMIC) where more dementias occur.

Our new life-course model and evidence synthesis has paramount worldwide policy implications. It is never too early and never too late in the life course for dementia prevention. Early-life (younger than 45 years) risks, such as less education, affect cognitive reserve; midlife (45–65 years), and later-life (older than 65 years) risk factors influence reserve and triggering of neuropathological developments. Culture, poverty, and inequality are key drivers of the need for change. Individuals who are most deprived need these changes the most and will derive the highest benefit.

四、請閱讀下文，並以中文，並回答下列問題。（15分）
1. 請問作者認為自然行為介入之所以發展的原因是？
2. 自然行為介入學派對兒童學習的看法為何？
3. 作者對單一嘗試教學的看法如何

出處 Schreibman, L., Dawson, G., Stahmer, A. C., Landa, R., Rogers, S. J., McGee, G. G., ... & Halladay, A. (2015). Naturalistic developmental behavioral interventions: Empirically validated treatments for autism spectrum disorder. Journal of autism and developmental disorders, 45(8), 2411-2428..

While we are focusing here on naturalistic behavioral interventions it is imperative to emphasize that although an important impetus for the development of these interventions was addressing some limitations of highly structured behavioral interventions, these new behavioral approaches likely would not exist without the prior successful highly-structured interventions such as Discrete Trial Training (DTT). In addition we acknowledge that while massed trials may be used in the initial stages of DTT intervention, in later stages DTT researchers focus on reducing the massed trial aspect of treatment and incorporate other strategies as well. Many researchers and clinicians using contemporary DTT-based interventions now incorporate NDBI approaches as part of a continuum of teaching approaches used with individual learners. So for many DTT

見背面

investigators and practitioners massed trial may be only a small part of the overall approach and in fact some eschew any massed trials at all (Green 2001; Grow and LeBlanc 2013). From a NDBI standpoint beginning with highly structured, decontextualized programming used in typical DTT-based intervention might not be required. Perhaps children with autism actually do learn from the natural environment when learning opportunities are structured appropriately, especially if they are taught key skills for learning in that context (e.g., joint attention). It is also important to acknowledge that massed trial DTT teaching remains the approach of choice for certain skills at certain times, for all human learners, and it remains an important tool in the autism intervention toolbox (Jobin 2012). Furthermore, it is likely that some children may learn more quickly using a more structured approach, such as DTT, whereas other may flourish using a NDBI approach. As a controlled randomized trial has yet to be conducted with a head-to-head comparison of NDBI versus DTT, an important research goal involves learning for whom, and for what skills, naturalistic versus highly structured teaching is most helpful.

五、請閱讀下文，寫出可能的研究新發現(What this article adds)，至少兩個論點。（10分）

出處： Travers, B. G., Lee, L., Klans, N., Engeldinger, A., Taylor, D., Ausderau, K., ... & Brown, J. (2022). Associations Among Daily Living Skills, Motor, and Sensory Difficulties in Autistic and Nonautistic Children. The American Journal of Occupational Therapy, 76(2).

Research Article

AJ OT

Associations Among Daily Living Skills, Motor, and Sensory Difficulties in Autistic and Nonautistic Children

Brittany G. Travers, Lucia Lee, Nicole Klans, Alexandra Engeldinger, Desiree Taylor, Karla Ausderau, Emily C. Skaletski, Joshua Brown

Importance: Motor and sensory challenges are commonly reported among autistic individuals and have been linked to challenges with daily living skills (DLS). To best inform clinical intervention, greater specificity in how sensory and motor challenges relate to DLS is needed.

Objective: To evaluate the relationship between combined sensory and motor scores and DLS performance among autistic and nonautistic children and to explore associations between motor scores and performance on specific DLS items.

Design: Descriptive design.

Setting: University research lab.

Participants: Autistic children, nonautistic children with no family history of or diagnosis related to autism, and nonautistic children with a family history of or diagnosis related to autism (ages 6–10 yr. N = 101). All participants communicated verbally.

Intervention: None.

Outcomes and Measures: Parent-report measures of DLS and sensory features and standardized assessments of motor performance.

Results: Findings indicated a strong relationship between motor difficulties and all domains of DLS. At the item level, motor skills were associated with occupations of dressing, bathing, health management, cleaning up and organization, meal preparation and clean-up, education, and safety. Combined sensory and motor measures better predicted DLS than sensory or motor measures alone.

Conclusions and Relevance: Children with motor and sensory challenges are likely to experience challenges with a diversity of occupations, which is important given the prevalence of motor and sensory challenges among autistic children and among children with other neurodevelopmental conditions. Therapeutic interventions that account for or address these motor challenges and associated sensory features are likely to further enhance DLS.

見背面

六、請用中文簡要說明此文內容（約100-200字）（10分）
出處：Naoki Higashida. <u>My autism and my desired quality of life.</u> Dev Med Child Neurol. 2022 Aug;64(8):934. doi: 10.1111/dmcn.15246. Epub 2022 Apr 29.

My autism and my desired quality of life

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Nowadays, there is an increasing recognition of quality of life (QoL) beyond aspects of health.[1] This may result from the fact that human happiness can never be standardized. Individuals on the autism spectrum have endeavoured to facilitate their lives through training and by adjusting themselves to their environment, in order to adapt harmoniously to social life. However, the reality is that some people cannot alleviate their suffering, irrespective of how much care they receive.

One's own personal feeling of happiness is not the same as that of surrounding people. Adopting this outlook on life, which may be thought as being self-evident, enables family and caregivers to show they understand, which in turn makes one happy.

I believe that everyone was born to be happy. This applies irrespective of the existence of a disability. The moment you feel happy is when your soul is trembling with joy. When you can say that you are happy to be alive and accept yourself as you are, I hope that caregivers will assess the QoL of individuals with autism on that basis and provide the necessary support which may otherwise be lacking.

People who can clearly express their feelings can convey their wishes to their caregivers. Of course this is not easy for people who have communication difficulties.[2] One should not forget how hard it can be sometimes to discern the feelings of those who struggle verbally. People who cannot express 'I want more help' also cannot express 'I need less unnecessary help'. It is the role of the caregiver to cooperate with those who need assistance and advocate on their behalf regarding their daily needs. Perhaps the most important means to fulfil that role is to be attuned as much as possible to the feelings of the individuals who need assistance.

The goal is to provide help that supports learning, rewards work, and provides relaxing leisure time. In sum, the hope is to provide care that is not only concerned with illness or injury, but that also takes account of the person's emotional well-being.

Rather than making comparisons with other people, shouldn't the most important aspect of improving QoL be to build a lifestyle where one can see lots of smiles on the faces of those in need of care?

DATA AVAILABILITY STATEMENT
Not required

REFERENCES
1. Evers K, Malpuars I, Schepens H, Vanaken G I, Noens I. Conceptualization of quality of life in autistic individuals. Dev Med Child Neurol 2022; 64: 950-6.
2. Higashida N. The Reason I Jump: one boy's voice from the silence of autism. New York: Random House, 2007.

七、請用中文敘述方法段落中的 procedure 部份。（10分）
出處：Spalding, K., Gustafsson, L., & Di Tommaso, A. (2022). Exploring Patient Outcomes After Participation in an Inpatient Occupation-Based Group: A Longitudinal Observational Cohort Study. The American Journal of Occupational Therapy, 76(5).

Spalding K, Gustafsson L, Di Tommaso A. Exploring Patient Outcomes After Participation in an Inpatient Occupation-Based Group: A Longitudinal Observational Cohort Study. Am J Occup Ther. 2022 Sep 1;76(5):7605205140. doi: 10.5014/ajot.2022.049241. PMID: 35943844.

Procedure

Figure 1 illustrates the full study procedure. All patients referred to the LifeSkills group were screened against the inclusion criteria. If eligible, the participant information and consent form was provided and discussed, and patients were given 24 hr to consider participating. It was made explicitly clear that involvement in any aspect of the study would have no direct benefit to the clinical care provided. All data collection was conducted by the principal investigator (Kaitlyn Spalding), who was not involved in direct clinical treatment of participants. The participants identified up to five IADL goals using the COPM and rated their performance and satisfaction; potential outcomes on the GAS were derived as per Ottenbacher and Cusick (1990). The self-efficacy scale was used to rate participants' current confidence in performing the identified IADL goals. The Lawton IADL scale was used to rate prehospitalization performance. Participation in the LifeSkills group was tailored to participants' identified goals. The COPM, GAS, and self-efficacy scale were readministered immediately postintervention. Participants were telephoned by the principal investigator at 30 days and 90 days postdischarge for follow-up data collection.

八、請閱讀以下摘要，並說明此篇研究的方法是如何進行？。(10%)

出處: Antonio F. Macedo, et al. (2022) Predictors of problems reported on the EQ-5D-3L dimensions among people with impaired vision in northern Portugal, *Health Qual Life Outcomes*, 20:132

Background: The EQ-5D index often fails to detect the effect of ophthalmic diseases and sight loss. Investigating predictors of individual EQ-5D health dimensions might reveal the underlying reasons. The aim of this study was to investigate predictors of health dimension ratings obtained with the EQ-5D-3L from participants with impaired vision representing a spectrum of eye diseases.

Methods: Observational cross-sectional study with participants recruited at four

<div align="center">見背面</div>

public hospitals in Portugal. Outpatients with visual acuity of 0.30 logMAR (6/12) or worse in the better-seeing eye were invited to participate. Participants completed two instruments: the EQ-5D-3L (measures participants' perceived health-related quality-of-life) and the Massof Activity Inventory (measures visual ability-ability to perform vision-related activities). This study used logistic regression models to identify factors associated with responses to the EQ-5D-3L.

Results: The study included 492 participants, mean age 63.4 years (range = 18-93), 50% females. The most common diagnosis was diabetic retinopathy (37%). The mean visual acuity in the better seeing eye was 0.65 logMAR (SD = 0.48) and the mean visual ability was 0.62 logits (SD = 2.04), the correlation between the two was r = -0.511 (p < 0.001). Mobility and self-care were the health dimensions with the fewest problems (1% reported extreme problems), anxiety and depression the dimension with the most problems (24% reported extreme problems). ROC curve analysis showed that the EQ-5D index was a poor predictor of cases of vision impairment whilst visual ability given was a good predictor of cases of vision impairment. Visual ability was an independent predictor of the response for all dimensions, higher ability was always associated with a reduced odds of reporting problems. The odds of reporting problems were increased for females in 3 out of 5 dimensions. Comorbidities, visual acuity and age-category were predictors of the odds of reporting problems for one dimension each.

Conclusions: The odds of reporting problems for the five health dimensions of the EQ-5D-3L were strongly influenced by the ability to perform vision-related activities (visual ability). The EQ-5D index showed poor performance at detecting vision impairment. These findings are informative and relevant for the clinic and for research evaluating the impact of eye diseases and disease treatments in ophthalmology.

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