華人教育觀的「縱向目標」與科學理論的「硬核」

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摘要

西方的教育或學習動機理論，多未能顧及東亞社會的文化價值觀或文化系統，因此難以理解本地人們之相關心理與行為。符教授所撰寫的靶子論文指出，盲目套用西方理論，很可能形成「雙重鴻溝」的問題，因此應採用文化心理學的研究取向，從哲學反思開始，進而建構適合的理論，據以進行實徵研究。本文相當認同符教授闡述的研究取向和基本觀點。針對該論文所提出的「修養的角色義務理論」，本文首先對於其中「縱向目標」此一關鍵概念，以及相關之「雙模式成就目標」理論架構，做些補充說明。接著，本文針對該論文提及的科學哲學論點和詮釋應用，提出一些疑問。最後，本文從實用主義的科學哲學觀，說明本土或文化心理學研究傳統可能遇到的困難議題與未來展望。

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近年來一些國際學者將東亞學生的學習成果視為「教育奇蹟」（educational miracle）（Liem & Tan, 2019）。這主要是因為數十年來，許多針對中小學生學業成就的跨國評量調查一再顯示，東亞社會（包括台灣、韓國、日本、香港、新加坡等）的學習成果，遙遙領先世界其他國家（Mullis et al., 2020; Organisation for Economic Co-operation and Development [OECD], 2023）。然而，相關研究也顯示，東亞地區學生對學業學習的興趣遠低於其他國家，而且對許多學生而言，學業學習甚至是主要的生活壓力來源（黃昱得，2014; Fwu et al., 2018; Lee & Larson, 2020; Lin & Huang, 2014; Mullis et al., 2020）。這種「高成就、低興趣」的現象，若從西方的教育心理或學習動機理論來看，與其說像是「奇蹟」，可能更像是某種不易理解的「悖論」（paradox）（Chen, 2023）。這主要是因為，既有的西方的教育或學習動機理論，多未能顧及東亞社會在教育和學習實踐上的文化價值觀或文化系統，因此難以理解何以會出現上述現象，更遑論能用以解決實際問題了。

當然，西方的社會科學研究者提出理論，若只是要解決其所處社會的問題，或許不一定需要考慮非西方社會的現實情況。實際上，過去西方心理學研究大多也只關心自身文化系統所發展出來研究典範，以及在其社會中的適用狀況（Henrich et al., 2010）。然而從本土或文化心理學的角度來看，本地社會科學研究者如果真誠地希望瞭解自身社會現象，或試圖解決相關問題，那麼勢必不能只是「素樸地」硬搬套用西方發展出來的理論或技術，而需要深究本地文化系統與社會狀況，並建構適切的理論，據以進行實徵研究。如此一來，才較可能具有自我理解與反思的研究意義，也較可能解決自身的問題。

由符碧真教授所撰寫的《儒家倫理與華人教育觀：哲學反思、理論建構與實徵研究》一文（以下簡稱「儒文」），內容相當豐富且具啟發性，展現了上述文化心理學重視的研究意義。符教授在該論文中，除了說明其提出的華人教育觀與相關理論概念，還分析了與華人文化系統之關聯，並且闡述其多年學思歷程，以及學術觀念上的重大轉變，彰顯了「十年磨一劍」的研究精神。

事實上，個人認識符教授接近二十年，也很榮幸曾與符教授多次合作研究。我們都受到黃光國教授之啟蒙與指導，個人也對符教授所提及的文化心理學研究立場相當贊同。本文將先簡要闡述我們共同認同的研究立場，然後將針對符教授提及的「縱向目標」以及「雙模式成就目標理論架構」（陳舜文，2022b; Chen, 2023; Chen et al., 2009），在理論概念上嘗試做些補充說明。接著，本文將針對符教授對其理論在知識論或科學哲學上的詮釋或說法，提出個人的一些疑惑。最後，本文將延伸討論文化心理學家在建構涵攝文化的理論時，必然會遇到的困難議題。

壹、文化心理學的基本觀點

「儒文」首先明確地指出，本地教育學者若採「技術理性知識論」，盲目搬用西方理論與技術，將可能出現「雙重鴻溝」的問題。其中第一道鴻溝是文化差異，亦即忽略不同文化系統之間的差異，不加思索地將「怪異的」（WEIRD）樣本所發展出來研究典範，套用至非西方社會。第二道鴻溝則是理論與應用之間的落差，亦即認為可將理論照本宣科地套用在實踐場域，未顧及現實。個人相當同意此分析觀點。而在這兩道鴻溝中，第一道鴻溝可能是更加關鍵的問題。因為如果某項理論或技術根本不適用於本地社會，那麼無論怎麼調整理論與應用之差距，大概至多達到「削足適履」之效。正如同就醫看病時，如果根本拿錯藥，那麼無論如何調整服藥方式和劑量，大概也很難痊癒，甚至可能吃出更多問題。

　　符教授在「儒文」中進一步表示，為了克服「雙重鴻溝」的難題，她曾花費十數年時間，從哲學反思開始，進而以文化心理學取向建構理論，然後進行實徵研究。借用科學哲學家 Kuhn（1962）的話，這經歷可以說是「典範轉移」（paradigm shift） 的歷程。個人十分有幸曾與符教授共同合作，也能深切體會研究典範轉移之辛苦。此外，個人也相當同意「儒文」中對於「文化系統觀」與「泛文化向度」兩類研究取向之對比與評論。

貳、雙模式成就目標理論架構

　　為了理解對於本地教育與學習之特殊現象，並分析華人教育觀之特色，符教授提出了「修養的角色義務理論」。此理論包含一項重要概念：縱向目標（vertical goal）。「儒文」中表示「如果未區分縱向目標與非縱向目標，則修養的角色義務理論就會崩塌瓦解」，顯然「縱向目標」之概念在「修養的角色義務理論」中至為關鍵。由於個人的許多研究，也是環繞著「縱向目標」與學習動機議題，故藉此機會進一步闡述相關之概念與理論架構，希望能作為補充。

　　「縱向目標」的概念原型出自陳舜文（2005）的論文研究，該論文對於既有西方成就動機理論進行批判回顧，進而針對本地人們的生活目標，提出了「華人成就動機」之概念架構。之後個人根據該架構進行了一系列研究，也與符老師等多次合作研究（陳舜文，2022b; Chen, 2023），並將相關概念之內涵整理成為「雙模式成就目標理論架構」（dual-mode theoretical framework of achievement goal）。

　　根據「雙模式成就目標理論架構」，人們在日常生活中所追求的成就目標包含兩大類型：「個人目標」（personal goal，可大致對應「儒文」中的「非縱向目標」）和「縱向目標」。這兩類成就目標的差異源自目標建構來源，而兩者在動機模式、社會心理功能、美德意涵、成敗歸因模式，以及牽涉的內隱信念等面向，皆有所不同（參見表 1）。

表 1

雙模式成就目標理論架構

	個人目標	縱向目標
建構來源	自發興趣	社會期許
動機模式	內在動機	角色義務
社會心理功能	維持正向自我概念	認同角色義務
美德意涵	不彰顯	彰顯
成敗歸因模式	自我抬升：	努力模式：
	失敗時外歸因	失敗時歸於努力因素
	成功時內歸因	
內隱信念	能力信念：	努力信念：
	能力實體觀 **或**	努力義務觀 **與**
	能力增進觀	努力進步觀

註：改自「Learning motivations and effort beliefs in Confucian cultural context: A dual-mode theoretical framework of achievement goal.」，S.-W. Chen，2023，*Frontiers in Psychology*, *14.*

　　所謂「個人目標」是指個體依據自發興趣所建構的成就目標。此類目標多是個體具內在動機，或認為自己能力擅長之領域。個體可自行選擇與界定此類目標的內容與標準，但人際關係內的重要他人（例如父母、師長等）對於個體是否追求此目標未有所期待，通常也未受到普遍社會價值所重視。相對地，「縱向目標」是個體因為自身擔任的社會角色（例如學生角色），而被期許達成之特定成就目標。這些社會期許通常是來自人際關係網絡中的重要他人。此類目標的內容和標準存在於社會普遍觀念之中，因此通常具有較高的社會價值，但個人不一定會對這些目標抱有內在興趣。在華人社會中，這些成就目標常被視為是個人應盡的角色義務，必須盡可能地努力為之。換言之，追求「個人目標」時主要依靠的動機形式是個體的內在興趣，而追求「縱向目標」的主要動機形式是個體對於自己擔負之角色義務的認同感。

　　根據「雙模式成就目標理論架構」，「個人目標」和「縱向目標」所牽涉的社會心理功能、美德意涵、成敗歸因模式以及內隱信念，都有所不同。首先，由於「個人目標」是奠基於個體的內在興趣與能力，因此在日常生活中，個體可藉由追求「個人目標」來維持正向自我概念（positive self-concept）。而為了維護或甚至增進正向自我概念，個體會傾向採取「自我抬升」（self-enhancement）的成敗歸因模式，亦即傾向將成功歸於內在因素，失敗歸於外在因素（Chen et al., 2009）。再者，如「儒文」所言，個人是否追

求或放棄「個人目標」，完全因自己的興趣與能力而定，不影響個體自身的美德或道德形象，也不會引發相關道德情緒，如愧疚感（Fwu et al., 2018）。

相較之下，「縱向目標」牽涉的心理與行為機制則有所不同。由於「縱向目標」的建構來源是社會期許，尤其是基於個體所擔任的角色義務，因此個體追求「縱向目標」時，主要的社會心理功能是內化與認同自身的社會角色義務（陳舜文、魏嘉瑩，2013）。在追求此類目標時，個體往往受到高度社會期許，也可能產生自我要求，因此歸因時傾向採「努力模式」（effort model），亦即將挫折或失敗歸於自身努力不足，以促使自己再加努力（Chen et al., 2009, 2019）。也因為「縱向目標」往往涉及個體擔負的角色義務，在華人社會中，努力追求此類目標可彰顯個體自身的美德。這正是「儒文」中指出華人追求「縱向目標」時的特殊社會心理機制：「努力追求重要他人期待的目標→善盡角色義務→彰顯個人德行→增進內在道德修養」。換言之，對於東亞地區的學生而言，學業目標常常即為其生活中重要的「縱向目標」。

此處有幾點值得特別說明。首先，從規範倫理學（normative ethics）來看，華人的道德觀較傾向「德行論」（virtue ethics）的立場，即重視個人內在品格與美德的養成，並且在道德事件中強調智慧或睿智的判斷（Ames, 2011; Angle & Slote, 2013）。然而，華人的美德信念也有其特殊性，包括對於角色義務與道德規範的反思與認同，以及朝向「至善」的實踐意願（Chan, 2014）。也就是說，「縱向目標」所涉及的「道德」，意涵，其實是指「德行」或「美德」，不同於重視後果的「效益論」（utilitarianism）或普遍主義式「義務論」（deontology）之倫理學立場的意義。

其次，「儒文」提及西方社會也有重視「努力」的傳統，這主要是受到基督新教「上帝預選說」（doctrine of predestination）的影響。基督新教強調「工作倫理」，認為透過辛勤工作及節儉，進而獲得財富與成功，具有「道德價值」（moral worth），因此努力工作是個人的義務。「預選說」信念恰恰顯示出西方文化與華人文化在「道德觀」上的主要差異。在西方文化傳統中，人們之所以認為努力具有道德價值，主要是源自「上帝與人」的關係。基於這樣的觀念而產生的「義務」概念，帶有普遍主義的意義。也就是說，此類「義務」與個人的社會角色無關，也與周遭重要他人的期許無關。相對地，華人社會受到儒家文化影響，強調的是個人生活在社會關係網中的「角色義務」，是具有關係脈絡意涵的義務觀，與基督新教倫理的普遍主義式道德觀相當不同（林端，2002；黃光國，2017）。若未能從文化系統的角度理解華人文化的道德觀，很可能便會誤解「儒文」之論述（符碧真等，2021）。

再者，正因為在華人社會中，「縱向目標」常被視為是個體必須盡力而為的角色義務，對於「努力」（而非能力）的信念，才是影響本地學生學習心理與行為的關鍵認知。更清楚地說，個體追求「縱向目標」過程中遇到挫敗時，若能再次奮力，不因氣餒而放棄，一方面會被認為是盡責的美德表現，另一方面也可能認為堅持不懈便可使自己有所

進步。如此一來，人們在追求「縱向目標」時，常會抱持兩類努力信念：「努力義務觀」（obligation-oriented belief about effort）和「努力進步觀」（improvement-oriented belief about effort）。針對學生而言，「努力義務觀」是指：相信努力用功是學生的義務。這是將「努力」視為目的，努力本身即是值得稱讚的美德；「努力進步觀」則是指：相信努力可以增進自身的學業能力。這是將「努力」視為可使人進步的手段。過去一系列研究顯示，此兩類努力信念可預測小學生、中學生與大學生的學業情緒、認知模式與行為反應（王冠樺、陳舜文，2020; Chen et al., 2019），也可預測中學教師對學生的教學態度（Chen et al, 2016）。

相較之下，個體在追求「個人目標」時（無論在東西方社會），對於相關領域之「能力」所抱持的信念，很可能會影響其行為模式。一般而言，對於個人目標相關領域愈抱持「能力增進觀」（即相信能力可以靠後天改變）（increasing theory about ability），則愈可能繼續追求相關個人目標；相對地，愈抱持「能力實體觀」（即相信能力是天生固定而難以改變）（entity theory about ability），則愈可能在失敗時放棄追求相關個人目標（Dweck, 2006）。此處須留意的是，「能力增進觀」和「能力實體觀」在概念和測量上是同一向度的兩端，此高則彼低；而「縱向目標」涉及的「努力義務觀」與「努力進步觀」在意涵上是不同的構念。

參、對於「硬核」之疑問

整體而言，個人對於「儒文」之大部分觀點都相當贊同，僅對文中有關科學哲學之論點與運用詮釋，感到有些困惑。「儒文」引用了科學哲學家 Lakatos（1970）提出的概念「科學研究綱領」（scientific research programmes），試圖闡述文化心理學與「修養的角色義務理論」之「硬核」（hard core，此詞在哲學上通常翻成「硬核」，而非「硬殼」，本文依照一般譯法）以及「保護帶」（protective belt）。Lakatos 的科學哲學觀是延伸自 Karl Popper 的「否證論」（falsificationism）。概括而言，Popper 反對科學的「實證主義」（positivism），認為科學家提出理論時，不應依賴不可靠的歸納法，而且實徵研究也不可能證實（confirm）或檢證（verify）理論命題。相反地，科學家必須依靠創造性思考，理性地構思可以被經驗觀察否證的理論。如果實徵研究結果與理論不符，應避免為了修改或維護理論，而提出特設的事後解釋（ad hoc explanation）。

然而，Popper 的「否證論」並不符合科學研究的實際運作方式，科學家遇到不符理論的結果，通常不會就因此拋棄理論。而且從科學史來看，有時堅信不符經驗現象的理論，甚至提出事後解釋，反而有助科學進展，例如「海王星的發現」即為科學史上的著名案例（Godfrey-Smith, 2003）。Lakatos（1970）為了解決 Popper「否證論」遇到的困難，以及回應「科學歷史主義」（Kuhn, 1962）的挑戰，提出了「精緻否證論」（sophisticated

falsificationism）。此理論認為科學研究典範具有歷史性，同典範的研究會形成「研究綱領」。再者，任何研究綱領都有不可改變的核心觀念，亦即「硬核」。在「硬核」之外，則是一些可稱為「保護帶」的輔助命題。如果遇到不符合理論的結果，該研究綱領的科學家應設法調整或修改「保護帶」，而非輕率改動「硬核」。舉例而言，牛頓物理學的「硬核」是萬有引力概念與三大運動定律，而其「保護帶」包括對宇宙結構的看法、數學工具的應用方式等。對於牛頓物理學的研究者而言，當遇到實徵觀察之異例時（例如發現天王星軌道異常），可以修改「保護帶」（改變對太陽系結構的看法），但不應任意更動「硬核」（仍相信萬有引力和運動定律是正確的）。綜言之，「精緻否證論」所謂的「研究綱領」是指具有歷史傳承的科學研究典範，「硬核」則是指特定研究綱領中不可輕易質疑的前提。

綜觀「儒文」的論述，似乎在兩個層次上使用了「研究綱領」的概念，其一是文化系統的層次，其二是心理學理論的層次。針對文化系統，「儒文」表示：「西方社會的硬殼包括：生命的來源是上帝，以及個人權利」以及「儒家社會的硬殼包括：生命來源是父母，以及個人的角色義務」。這樣的說法似乎是將「精緻否證論」科學哲學中關於「硬核」與「保護帶」的觀念，套用於文化價值的範疇。然而，文化價值觀涉及的是人們在「生活世界」中，安置自我或人我關係的思考與行動指引，科學理論則是科學家建構用來理解或預測現實的「微世界」。「文化價值觀」與「科學理論」兩者的性質、目的與建構來源皆不相同。若將科學哲學的觀點用來分析或詮釋文化系統，可能有範疇錯置的問題。不知「儒文」這裡是否其實只是要表達：西方社會與儒家社會具有不同的基本價值觀，根源於不同的文化思想傳統？若是如此，也許不需援引科學哲學的觀念，直接分析或比較東西文化系統基本價值觀之差異即可。

此外，「儒文」也將「研究綱領」的概念用於心理學理論的層次。文中表示：「基於前述拉卡托斯『科學研究綱領』中『硬殼』的概念。『修養的角色義務理論』是筆者系列研究的硬殼，為了保護『硬殼』，遂增加成就目標類型的輔助假設，僅適用於縱向目標」。這是運用科學哲學的觀點，詮釋特定科學理論的性質，並無範疇錯置的問題。但個人對此處「儒文」的說法仍有兩點疑問。一是在「精緻否證論」中，所謂「研究綱領」是指具有歷史意義的研究典範，「硬核」則是指研究綱領中不可輕易質疑或更改的觀念或前提。依照「儒文」的說法，似乎是指整套「修養的角色義務理論」都是「硬核」。也就是說，該理論包含的全部命題與概念，都是不可修改或質疑的前提。若是如此，該理論將會相當奇特。而或許這不是「儒文」欲表達的意思，只是文中說法過於模糊，令人不易理解。另一項疑問是，「儒文」明確表示：「如果未區分縱向目標與非縱向目標，則修養的角色義務理論就會崩塌瓦解」。如此一來，根據「精緻否證論」對於「硬核」的界定，「縱向目標」或「目標類型的區分」似乎才是該理論不可輕易更動的「硬核」，而非只是輔助假設或「保護帶」？

肆、文化心理學「研究傳統」的挑戰與展望

　　針對上述疑問，或許可以在知識論上換個想法。根據「實用主義」（pragmatism）的科學哲學觀（Laudan, 1978），科學研究的目的是為了解決問題。科學社群經過長期發展，可能逐漸形成具彈性的典範或「研究傳統」（research traditions）。「研究傳統」之概念與「研究綱領」的主要不同在於：只要能解決問題，研究傳統中的任何觀念或命題都可以修正調整，不一定非得區分「硬核」或「保護帶」。再者，「研究傳統」面對的問題可分為理論內部問題，以及理論的外部應用問題。理論內部問題包括：概念意義的清晰性、命題之間的邏輯一致性與相容程度等；外部應用問題則包括：理論對現象的解釋力、可解決實際問題的能力等。換言之，採納特定研究傳統的科學社群，一方面要設法解決理論的內部問題，另一方面也可思考如何增進解決外部問題的能力。

　　從這樣的觀點來看，若將本土或文化心理學整體視為當代心理學的一項「研究傳統」，此研究傳統最終要面對的即是「儒文」一開始提及的「雙重鴻溝」問題。要解決如此龐大的問題，並非一蹴可幾。文化心理學研究者往往必須「大處著眼、小處著手」，針對特定研究議題，局部地建構理論（陳舜文，2022a）。建構理論時，研究者可彈性地調整理論概念或命題，一方面探討如何將文化系統轉化或涵攝成為清晰的科學構念，以及增進論述的內部一致性；另一方面，也可思考如何提升理論對現象的解釋力，以及解決實際問題的能力。

　　值得一提的是，在建構理論解決問題的過程中，文化心理學研究者必然會遇到兩項需要深思的議題。其一是有關「文化相對主義」（cultural relativism）議題，另一項則是關於多元文化發展的議題。針對第一項議題，所謂「文化相對主義」的主張是：不同文化所重視的信念或價值系統並不具普同性，或甚至認為只能從特定文化系統內部的價值觀與標準出發，才能理解其中人們的心理現象或行為之意義（Boas, 1887）。文化心理學家需思考是否認同或採取「文化相對主義」的立場？如果採取極端的文化相對主義立場，或許可以建構較簡約的理論，但可能使得不同文化的研究成果與研究者之間交流困難；而如果認為本土或文化心理學研究可同時探討文化特殊性與人類普同性，那麼在構思理論或概念時，便需要相當謹慎周延（陳舜文，2022a）。另一方面，針對上述第二項議題，文化心理學家需思考的是：在全球溝通方便頻繁的今日，不同文明的文化系統與價值觀常彼此交流衝擊，未來不同的文化系統是否可能逐漸融合？或繼續維持差異（Nisbett, 2003）？更具體地說，台灣社會因歷史與社會因素，長期受到多元文化所影響，未來是否可能朝向某種特定價值觀發展？或是融合成為整合式文化系統？抑或形成獨立共存，但非融合的動態文化心智模式（Hong et al., 2000）？

這些議題都相當重要，但已超過本文主旨，無法在此詳細闡述，只能暫時打住，留待後續思考討論。無論如何，非常感謝本刊提供這次機會，使個人更加認識符教授對於華人教育觀的長期研究成果以及精彩的思考論述。本文雖對於「儒文」提出一些疑惑，但個人其實非常認同符教授的基本立場與觀點，只希望能拋磚引玉，弘揚本土心理學研究社群之思辨風氣，使相關研究能更加蓬勃發展。

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The Vertical Goal in the Chinese Views on Education
and the Hard Core of Scientific Theory

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Abstract

Many Western educational and learning motivation theories fail to take into account the cultural values and systems of East Asian societies. As a result, they are unable to fully understand the related psychological and behavioral phenomena of "non-WEIRD" people. Professor Fwu's target article highlights this issue, pointing out the "double gaps" problem that arises from the blind application of Western theories. To address this, she advocates for adopting a cultural psychological research approach that begins with philosophical reflection, proceeds to construct appropriate theories, and then conducts empirical research accordingly. This paper endorses Fwu's fundamental research approach and viewpoints. Furthermore, this paper contributes by elaborating on the key concept of "vertical goal" within Fwu's theory and the associated "dual-mode theoretical framework of achievement goal". Subsequently, this paper raises some questions regarding the scientific philosophical arguments and their interpretative applications mentioned in that article. Finally, from a pragmatist philosophy of science perspective, the paper outlines potential challenges and future directions for indigenous or cultural psychology research traditions.

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In recent years, some international scholars have viewed the learning outcomes of East Asian students as an "educational miracle" (Liem & Tan, 2019). This is primarily because, for decades, numerous cross-national assessment surveys on the academic achievements of primary and secondary school students have repeatedly indicated that the learning outcomes of East Asian societies (including Taiwan, South Korea, Japan, Hong Kong, Singapore, etc.) are significantly ahead of those in other countries worldwide (Mullis et al., 2020; OECD, 2023). However, related studies also reveal that students in East Asia exhibit much less interest in academic learning compared to their peers in other countries, and for many of these students, academic learning is even a major source of life stress (Fwu et al., 2018; Huang Yude, 2014; Lee et al. & Larson, 2020; Lin & Huang, 2014; Mullis et al., 2020). This phenomenon of "high achievement and low interest" may resemble a perplexing "paradox" (Chen, 2023) rather than a "miracle" when viewed through the lens of Western educational psychology or learning motivation theory. This is mainly because existing Western educational or learning motivation theories have largely overlooked the cultural values or systems of East Asian society in education and learning practices. As a result, it is challenging to understand why this phenomenon occurs, let alone to address practical problems.

Of course, if Western social science researchers propose theories solely to address the problems of their own society, they may not need to consider the realities of non-Western societies. In fact, historically, much Western psychology research focused exclusively on the research paradigms developed by their own cultural system and their applicability within their society (Henrich et al., 2010). However, from the perspective of Indigenous or cultural psychology, if Indigenous social science researchers genuinely aim to understand their own social phenomena or address related problems, they must not just "naively" apply the theories or techniques developed in the West; they need to explore the local cultural system and social conditions and construct appropriate theories to conduct empirical research based on them. In this way, there is a greater likelihood of achieving research significance in self-understanding and reflection, as well as effectively addressing their own issues.

The article "Confucian Ethics and Chinese Views on Education: Philosophical Reflection, Theoretical Construction, and Empirical Research," written by Professor Bih-Jen Fwu (hereinafter referred to as the "Confucian article"), is quite rich and inspiring. It highlights the research significance of the aforementioned cultural psychology. In this paper, Professor Fwu not only explains the Chinese views on education and related theoretical concepts she proposed but also analyzes their relationship with the Chinese cultural system. She elaborates on her

many years of learning and reflection, as well as the major changes in academic concepts, demonstrating the research spirit of "ten years of hard work."

In fact, I have known Professor Fwu for nearly 20 years, and I am honored to have collaborated with her on numerous research projects. We were both enlightened and guided by Professor Kwang-Kuo Hwang, and I personally align with Professor Fwu's research position on cultural psychology. This article will first briefly outline our commonly agreed research position and then provide some additional explanations regarding the theoretical concepts of "vertical goals" and "Dual-mode theoretical framework of achievement goal" mentioned by Professor Fwu (Chen, 2022b; Chen, 2023; Chen et al., 2009). Next, this article will raise some personal doubts regarding Professor Fwu's interpretation or statements of her theory in epistemology or the philosophy of science. Finally, this article will extend the discussion to the challenging issues that cultural psychologists will inevitably face when constructing theories that include culture.

I. Basic Viewpoints of Cultural Psychology

The "Confucian article" first clearly pointed out that if local education scholars adopt "technical rationality epistemology" and blindly apply Western theories and technologies, there may be a "double gap" problem. The first gap is cultural differences, meaning that the differences between various cultural systems are ignored, leading to the blind application of research paradigms developed from "WEIRD" samples to non-Western societies. The second gap is the disparity between theory and application, which involves the assumption that theory can be directly applied to practical fields without considering real-world conditions. I personally agree with this analysis. Of these two gaps, the first may be the more critical issue. If a certain theory or technology is entirely inapplicable to the local society, then no matter how the gap between theory and application is adjusted, it can only result in the effect of "cutting the feet to fit the shoes." Just like when seeing a doctor; if you take the wrong medicine, then no matter how you adjust the method and dosage of taking the medicine, recovery will likely be difficult and may even lead to more problems.

Professor Fwu further stated in the "Confucian article" that to overcome the problem of the "double gap", she spent more than ten years, beginning with philosophical reflection, then constructing theories with a cultural psychology orientation, and finally conducting empirical research. Borrowing the words of scientific philosopher Kuhn (1962), this experience can be described as a process of "paradigm shift". I feel very fortunate to have worked with Professor

Fwu, which has given me a deep understanding of the hard work involved in studying paradigm shifts. Additionally, I strongly agree with the comparison and comments on the two research orientations of "cultural system view" and "pan-cultural dimension" in the "Confucian article."

II. Dual-Mode Achievement Goal Theory Framework

To understand the unique aspects of local education and learning, and to analyze the characteristics of Chinese views on education, Professor Fwu proposed the "role obligation theory of self-cultivation." This theory encompasses an essential concept: vertical goal. The "Confucian article" stated that "if vertical goals and non-vertical goals are not distinguished, the role obligation theory of cultivation will collapse and disintegrate." Clearly, the concept of "vertical goal" is vital in the "role obligation theory of cultivation." Since much of my personal research also revolves around the issues of "vertical goals" and learning motivation, I would like to take this opportunity to elaborate further on the related concepts and theoretical frameworks, hoping to provide additional insights.

The concept of "vertical goal" comes from Chen's (2005) research paper, which critically reviewed existing Western achievement motivation theory and proposed the conceptual framework of "Chinese achievement motivation" based on the life goals of local people. After that, I conducted a series of studies using this framework and collaborated with Professor Fwu and others on various studies (Chen, 2022b; Chen, 2023), organizing the connotations of related concepts into a "Dual-mode theoretical framework of achievement goal."

According to the "Dual-mode theoretical framework of achievement goal", the achievement goals that people pursue in their daily lives include two types: "personal goal" (which can roughly correspond to the "non-vertical goal" in the "Confucian article") and "vertical goal". The difference between these two types of achievement goals comes from the source of goal construction, and the two are different in terms of motivation mode, social psychological function, virtue connotation, success and failure attribution mode, and implicit beliefs involved (see Table 1).

The so-called "personal goals" refer to achievement goals that individuals construct based on their spontaneous interests. Such goals typically involve areas where individuals possess intrinsic motivation or believe they excel. Individuals can choose and define the content and standards of these goals themselves; however, significant others in interpersonal relationships (such as parents and teachers) do not have expectations regarding whether individuals pursue them, and they are generally not valued by broader social norms. In contrast, "vertical goals"

Table 1

Dual-Mode Theoretical Framework of Achievement Goal

	Personal goals	Vertical goals
Primary source of goal-construction	Autonomous interest	Social expectation
Motivation mode	Intrinsic motivation	Dutifulness
Functions of psychosocial adaptation	Maintenance of positive self-regard	Identification with role obligations
Manifestation of virtues	Insignificant	Significant
Self-attribution pattern	Self-enhancement: External attribution when failing; Internal attribution when successful	Effort model: Effort attribution when failing
Implicit beliefs	Ability beliefs: Entity or Incremental beliefs of ability	Effort beliefs: Obligation-oriented and Improvement-oriented beliefs about effort

Note: This table is modified from "Learning motivations and effort beliefs in Confucian cultural context: A dual-mode theoretical framework of achievement goal.", Chen, 2023, *Frontiers in Psychology.*

are specific achievement goals that individuals are expected to meet due to their social roles (such as student roles). These social expectations usually arise from essential others within their interpersonal network. The content and standards of such goals are embedded in the general societal framework, giving them high social value, even though individuals may not necessarily have intrinsic interest in these goals. In Chinese society, these achievement goals are often viewed as role obligations that individuals are expected to fulfill, and they must strive to achieve them to the best of their ability. In other words, the primary source of motivation for pursuing "personal goals" is the individual's intrinsic interest. In contrast, the primary source of motivation for pursuing "vertical goals" is the individual's sense of identity with their role obligations.

According to the "Dual-mode theoretical framework of achievement goal," the social psychological functions, virtue connotations, patterns of success and failure attribution, and implicit beliefs associated with "personal goals" and "vertical goals" differ significantly. First, because "personal goals" are grounded in an individual's intrinsic interests and abilities, individuals can maintain a positive self-concept by pursuing "personal goals" in their daily lives. To sustain or even enhance their positive self-concept, individuals tend to adopt a "self-

enhancement" pattern of success and failure attribution; that is, they typically attribute success to internal factors and failure to external factors (Chen et al., 2009). Furthermore, as noted in the "Confucian article," whether an individual pursues or abandons "personal goals" relies entirely on their own interests and abilities and does not impact the individual's virtues or moral image, nor does it elicit related moral emotions, such as guilt (Fwu et al., 2018).

In contrast, the psychological and behavioral mechanisms involved in "vertical goals" differ. Since the source of "vertical goals" is rooted in social expectations, particularly concerning individuals' role obligations, the primary social psychological function for individuals pursuing these goals is to internalize and identify their social role responsibilities (Chen & Wei, 2013). In striving for such goals, individuals often face high social expectations and may also impose self-requirements. Therefore, when making attributions, they tend to adopt the "effort model"—that is, they attribute setbacks or failures to their lack of effort, thereby motivating themselves to work harder (Chen et al., 2009, 2019). Additionally, because "vertical goals" frequently involve individuals' role obligations, pursuing these goals in Chinese society can emphasize the virtues of the individuals themselves. This reflects the unique social psychological mechanism highlighted in the "Confucian article" when Chinese people pursue "vertical goals": "Strive to pursue the goals expected by important others → fulfill role obligations → highlight personal virtues → enhance inner moral cultivation." In other words, for students in East Asia, academic goals often represent significant "vertical goals" in their lives.

There are several points worth mentioning here. First, from the perspective of normative ethics, the moral values of the Chinese people tend to align more closely with the position of "virtue ethics"; that is, they place significant importance on cultivating personal inner character and virtues, emphasizing wisdom or wise judgment in moral events (Ames, 2011; Angle & Slote, 2013). However, the virtue beliefs held by the Chinese people also possess distinct characteristics, including the reflection and acknowledgment of role obligations and moral norms, as well as a commitment to striving toward "perfection" (Chan, 2014). In other words, the "morality" associated with the "vertical goal" actually refers to "virtue" or "virtue," which differs from the ethical positions of "utilitarianism" or universalist "deontology" that emphasize consequences.

Secondly, the "Confucian article" noted that Western society also has a tradition of valuing "effort," which is mainly influenced by the Protestant "doctrine of predestination." Protestantism emphasizes the "work ethic," asserting that through hard work and thrift, wealth and success can be achieved, which holds "moral value." Therefore, working hard is seen as an

individual's obligation. The belief in the "doctrine of predestination" highlights the fundamental difference between Western culture and Chinese culture regarding "moral values." In the Western cultural tradition, the belief that effort possesses moral value primarily stems from the relationship between "God and man." The concept of "obligation" based on this understanding has universalistic implications. In other words, this kind of "obligation" is unrelated to the individual's social role or the expectations of significant others in their life. In contrast, Chinese society, influenced by Confucian culture, stresses the "role obligations" of individuals within a social network. This perspective on obligation carries relational implications, which markedly differ from the universalistic moral values of Protestant ethics (Hwang, 2017; Lin, 2002). If we fail to comprehend the moral values of Chinese culture from the view of the cultural system, we are likely to misinterpret the arguments made in the "Confucian article" (Fwu et al., 2021).

Moreover, in Chinese society, "vertical goals" are frequently viewed as the individual's obligation to give their best effort. Thus, the belief in "effort" (as opposed to ability) emerges as a fundamental cognition that shapes the learning psychology and behavior of local students.

To clarify, when an individual faces setbacks while pursuing "vertical goals," if they can try again and not give up due to discouragement, it is seen as a demonstration of the virtue of responsibility, and it is also believed that perseverance can lead to personal improvement. As a result, when pursuing "vertical goals," individuals often embrace two types of effort beliefs: "obligation-oriented belief about effort" and "improvement-oriented belief about effort." For students, the "obligation-oriented belief about effort" signifies a belief that hard work is a student's duty. This perspective regards "effort" as an admirable goal in itself, while the "improvement-oriented belief about effort" implies a belief that effort can enhance one's academic ability. Here, "effort" is seen as a means to achieve self-improvement. A number of previous studies have demonstrated that these two types of effort beliefs can predict the academic emotions, cognitive patterns, and behavioral responses of elementary school, middle school, and college students (Chen et al., 2019; Wang & Chen, 2020), as well as the teaching attitudes of middle school teachers toward their students (Chen et al., 2016).

In contrast, when individuals pursue "personal goals" (regardless of whether they are in the East or West), their beliefs about their "ability" in the relevant field are likely to affect their behavior patterns. Generally, the more one holds an "increasing theory about ability" (i.e., believing that ability can be changed by acquired experience) in the field related to personal goals, the more likely one is to continue pursuing those relevant personal goals. Conversely, the more one holds an "entity theory about ability" (i.e., believing that ability is fixed and difficult to change), the more likely one is to give up pursuing their relevant personal goals

when they fail (Dweck, 2006). It should be noted that "increasing theory about ability" and "entity theory about ability" are two ends of the same dimension in terms of concept and measurement, with one being high while the other is low; additionally, the "duty of effort" and "progress of effort" involved in "vertical goals" are different concepts in terms of connotation.

III. Questions About the "Hard Core"

Overall, I agree with most of the views in the "Confucian article." However, I am a bit confused about the arguments and interpretations related to the philosophy of science presented in the article. The "Confucian article" quotes the concept of "scientific research programmes" proposed by philosopher of science Lakatos (1970), aiming to explain the "hard core" (this term is typically translated as "hard core" in philosophy, not "hard shell," and this article follows the standard translation) and the "protective belt" of cultural psychology and the "role obligation theory of cultivation." Lakatos's philosophy of science builds on Karl Popper's "falsificationism." In essence, Popper opposes scientific "positivism" and argues that scientists should not rely on unreliable induction when formulating theories. He maintains that empirical research cannot confirm or verify theoretical propositions. Instead, scientists must depend on creative thinking to rationally develop theories that can be disproven by empirical observation. If the results of empirical research are inconsistent with the theory, ad hoc explanations should be avoided in order to modify or defend the theory.

However, Popper's "falsificationism" does not align with the actual practice of scientific research. Scientists typically do not abandon a theory when they face results that contradict it. Moreover, from a historical perspective, firmly believing in theories that do not align with empirical phenomena and even proposing post-hoc explanations can facilitate scientific progress. For instance, the "discovery of Neptune" is a well-known case in the history of science (Godfrey-Smith, 2003). To address the challenges posed by Popper's "falsificationism" and respond to the critique of "scientific historicism" (Kuhn, 1962), Lakatos (1970) introduced "sophisticated falsificationism." This theory posits that the paradigm of scientific research is historical, and research within the same paradigm will develop into a "research program." Furthermore, every research program has a non-negotiable core concept, referred to as a "hard core." Beyond the "hard core," there exist auxiliary propositions, termed "protection belts." When faced with results that contradict the theory, scientists within the research program should attempt to adjust or modify the "protection zone" instead of hastily altering the "hard core." For example, the "hard core" of Newtonian physics comprises the concepts of universal gravitation

and the three laws of motion, while its "protection zone" includes perspectives on the structure of the universe and the application of mathematical tools. For researchers in Newtonian physics, when they encounter anomalies in empirical observations (such as the discovery of irregularities in the orbit of Uranus), they can modify the "protection zone" (adjust their views on the structure of the solar system), but they should not arbitrarily change the "hard core" (maintain the belief that universal gravitation and the laws of motion are accurate). In summary, the so-called " scientific research programmes " of "sophisticated falsificationism" refers to a model of scientific research with historical roots, and the "hard core" denotes the premise that cannot be easily questioned within a specific research program.

In discussing the "Confucian article," it appears that the concept of "research program" is employed at two levels: one is the cultural system, and the other is psychological theory. Regarding the cultural system, the "Confucian article" stated: "The hard core of Western society includes: the source of life is God, and personal rights" and "The hard shell of Confucian society includes: the source of life is parents, and personal role obligations." Such a statement seems to apply the concepts of "hard core" and "protective belt" from the scientific philosophy of "sophisticated falsificationism" to the realm of cultural values. However, cultural values involve people's thinking and guiding actions about positioning themselves or their relationships within the "life world," whereas scientific theories form the "micro world" created by scientists to understand or predict reality. The nature, purpose, and construction sources of "cultural values" and "scientific theories" differ significantly. If scientific philosophy is applied to analyze or interpret cultural systems, there may be an issue of realm misplacement. I wonder if the "Confucian article" simply seeks to express that Western society and Confucian society possess different fundamental values, stemming from distinct cultural and ideological traditions. If that's the case, there may be no need to invoke concepts from scientific philosophy; a direct analysis or comparison of the differences in fundamental values between Eastern and Western cultural systems might suffice.

Additionally, the "Confucian article" applies the concept of "scientific research programmes" to the realm of psychological theory. The article states: "Based on the concept of "hard shell" in Lakatos's "scientific research programmes" mentioned above, the "role obligation theory of cultivation" is the hard shell of the author's series of research. In order to protect the "hard shell," the auxiliary hypothesis of the achievement goal type is added, which is only applicable to vertical goals." This approach uses the perspective of scientific philosophy to interpret the nature of a specific scientific theory, and there is no issue of realm misplacement. However, I still have two questions regarding the statement of the "Confucian article" here.

First, in the "sophisticated falsificationism," the so-called "scientific research programmes" refers to a research model with historical significance, and the "hard core" refers to the concepts or premises in the research program that cannot be easily questioned or changed. According to the statement of the "Confucian article," it seems that the entire set of "role obligation theory of cultivation" is considered "hard core." In other words, all the propositions and concepts included in the theory are premises that cannot be modified or questioned. If this is the case, the theory would be quite peculiar. Perhaps this is not what the "Confucian article" intended, but the wording in the article is too vague and difficult to grasp. Another question is that the "Confucian article" clearly states: "If the vertical goals and non-vertical goals are not distinguished, the role obligation theory of self-cultivation will collapse." Thus, according to the definition of "hard core" in the "refined falsification theory," the "vertical goals" or the "distinction of goal types" seem to represent the "hard core" of the theory that cannot be easily altered, rather than merely an auxiliary hypothesis or "protective belt."

IV. Challenges and Prospects of the "Research Tradition" of Cultural Psychology

In response to the questions posed above, we might consider shifting our perspective in terms of epistemology. According to the scientific philosophy of "pragmatism" (Laudan, 1978), the purpose of scientific research is to address problems. After a lengthy period of development, the scientific community may gradually establish a flexible paradigm or "research traditions." The primary distinction between the concepts of "research tradition" and " scientific research programmes " is that any concept or proposition within a research tradition can be revised and adjusted as long as it effectively resolves the problem, without the necessity of differentiating between "hard core" and "protective belt." Furthermore, the challenges faced by "research tradition" can be categorized into internal theoretical issues and external application issues of the theory. Internal theoretical issues encompass the clarity of conceptual meaning, logical consistency, and compatibility among propositions; external application issues involve the theory's explanatory power regarding phenomena and its capacity to address practical problems, etc. In other words, a scientific community adhering to a specific research tradition must, on one hand, strive to resolve the internal issues of the theory while, on the other hand, consider ways to enhance its ability to tackle external problems.

From this perspective, if we consider indigenous or cultural psychology as a "research tradition" within contemporary psychology, this tradition will ultimately encounter the "double gap" problem mentioned at the beginning of the "Confucian article." Solving such a significant

issue is a challenging task. Cultural psychology researchers often must "think big, start small," constructing theories locally for specific research topics (Chen, 2022a). In developing these theories, researchers can flexibly adapt theoretical concepts or propositions to suit their particular needs. On the one hand, they can examine how to translate or include cultural systems into clear scientific concepts to enhance the internal consistency of the discourse; on the other hand, they can also consider how to improve the theory's capacity to explain phenomena and address practical problems.

It is worth mentioning that in the process of constructing theories to solve problems, cultural psychology researchers will inevitably encounter two issues that need to be addressed. One is the issue of "cultural relativism," and the other is the issue of multicultural development. Regarding the first issue, the concept of "cultural relativism" posits that the beliefs or value systems upheld by different cultures are not universal or that the meaning of people's psychological phenomena or behaviors can only be understood within the context of a specific cultural system (Boas, 1887). Cultural psychologists need to consider whether to agree with or adopt the position of "cultural relativism." If an extreme cultural relativist position is taken, a simpler theory may be constructed; however, it may hinder the communication of research results between different cultures and researchers. Conversely, suppose it is believed that indigenous or cultural psychology research can explore both cultural specificity and human universality simultaneously. When conceiving theories or concepts, it is necessary to be very cautious and thoughtful (Chen, 2022a). On the other hand, regarding the second topic mentioned above, cultural psychologists need to reflect on the following: In today's world, where communication is both convenient and frequent, the cultural systems and values of different civilizations often interact and impact one another. Will different cultural systems gradually merge in the future? Or will they continue to uphold their differences (Nisbett, 2003)? More specifically, due to historical and social factors, Taiwanese society has long been influenced by multiple cultures. Will it evolve towards a certain set of values in the future? Or will it merge into an integrated cultural system? Or will it develop a dynamic cultural mental model that coexists independently without integration (Hong et al., 2000)?

These topics are very important, but they exceed the main purpose of this article and cannot be discussed in detail here. For now, I can only pause here and leave them for later reflection and discussion. Regardless, I am truly grateful to this Journal for providing this opportunity, which helps me better understand Professor Fwu's long-term research results and insightful thoughts on Chinese views on education. Although this article raises some doubts about the "Confucian article," I actually agree with Professor Fwu's basic position and views. I hope it

can serve as a starting point to foster a thinking atmosphere within the Indigenous psychology research community and allow related research to thrive.

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