

學術對談

後疫情時代的健康傳播及跨學科研究

對談人：桑迪·史密斯、石靜遠

編輯：石靜遠

翻譯：李子曦



桑迪·史密斯教授
(Prof. Sandi W. Smith)

「每當我捫心自問，作為傳播學者，怎樣才能為在跨學科研究的領域佔一席之地做好準備，就會意識到其實我們已經做了能夠做的。現在只需要發揮我們在傳播學理論、方法和傳播宣導過程等方面的知識，以及運用我們的專業技能為其他領域的專家進行關於傳播學各方面的培訓。我們對信息的關注點在學術界也是十分獨特的，而我們的跨學科研究亦已頗有成效。」

桑迪·史密斯，密歇根州立大學傳播學系大學傑出教授、國際傳播學會(ICA)會士。研究興趣：乳腺癌、器官捐贈及酗酒和吸毒等健康議題、傳播對健康行為的影響。電郵：smiths@msu.edu

石靜遠，香港浸會大學傳理學院互動媒體系助理教授。研究興趣：勸服學、健康傳播、傳播科技。電郵：jolieshi@hkbu.edu.hk

Dialogue

Health Communication and Transdisciplinary Research in the Post-Pandemic Era

Discussants: Sandi W. SMITH, Jingyuan SHI

Editor: Jingyuan SHI

Translator: Zixi LI

Abstract

This dialogue features Professor Sandi W. Smith, who is a University Distinguished Professor in the Department of Communication at Michigan State University (MSU), a world-renowned professor of health communication, and an International Communication Association (ICA) fellow. Professor Smith first shares her views on how the COVID-19 pandemic has transformed health communication research. She also highlights the importance of transdisciplinary research in the post-pandemic era and how communication scholars could contribute their expertise to it. In the end, she offers suggestions to junior communication scholars for engaging in transdisciplinary research.

Citation of this article: Smith, S. W., & Shi, J. (2023). Health communication and transdisciplinary research in the post-pandemic era. *Communication and Society*, 64, 1–28.

Smith W. SMITH (Distinguished Professor). Department of Communication, Michigan State University; ICA fellow. Research interests: public health issues including breast cancer, organ donation, and substance uses, health communication and behavior changes.

Jingyuan SHI (Assistant Professor). Department of Interactive Media, School of Communication, Hong Kong Baptist University. Research interests: persuasion, health communication, communication technology.

桑迪·史密斯教授簡介

桑迪·史密斯 (Sandi W. Smith) 教授是密歇根州立大學 (Michigan State University, MSU) 傳播學系的大學傑出教授。她的研究獲得來自美國國家科學基金會 (National Science Foundation)、衛生資源和服務管理局 (Health Resource and Services Administration)、國家癌症研究所 (National Cancer Institute)、國家環境衛生研究所 (National Institute of Environmental Health Science) 和美國教育部 (United States Department of Education) 的研究經費資助。史密斯教授的研究集中在諸如乳腺癌、器官捐贈以及酗酒和吸毒等健康議題，以及傳播對健康行為的影響。她的研究經常發表在頂級傳播學期刊上。她與史蒂夫·威爾遜 (Steve Wilson) 的著作 *New Directions in Interpersonal Communication Research* 獲得了美國國家傳播學會 (National Communication Association) 頒發的 G. R. Miller 傑出書籍獎。史密斯教授榮獲了國際傳播學會 (International Communication Association, ICA) 頒發的 B. Aubrey Fisher 導師獎，也入選為國際傳播學會的會士 (ICA Fellow) 和美國國家傳播學會的傑出學者。

SWS：桑迪·史密斯

JS：石靜遠

JS：作為一名在學界深耕近四十年的健康傳播學者，您認為2019新型冠狀病毒的大流行如何影響了基於理論的健康傳播研究與相應的研究方法？

SWS：在這漫長的兩年裡，我們共同經歷了2019新型冠狀病毒（後文簡稱為：新冠病毒）在全球的傳播和破壞，這無疑提高了公眾對健康傳播和健康宣導的認識和需求。我們與朋友、家人、同事以及相識的公共部門人員探討新冠病毒。同時，我們也通過大眾媒體收到來自政府機構的信息，提醒我們需要對新冠病毒的流行採取預防措施，譬如保持社交距離、佩戴口罩和接種新冠疫苗。公眾可能認為某些信息是可靠的、某些信息是錯誤的、某些信息是對個人自由的威脅、某些信息是對生命的拯救。作

《傳播與社會學刊》，(總)第64期(2023)

為健康傳播學者，我們需要思考這次影響全球的流行病如何潛在地揭示了相關理論和方法的未來發展機遇，以促進我們研究視角的擴展。

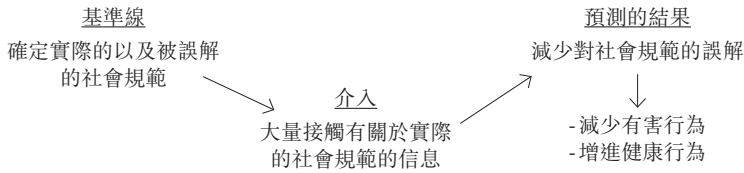
我們可以把流行病期間和之後的研究主體需求，分為傳統的勸服傳播 (persuasive communication) 和那些包含強制行為 (mandates) 的勸服傳播。根據 Daniel O’Keefe (2002) 和 Gerald Miller (2013) 等勸服傳播領域著名學者的觀點，勸服 (persuasion) 可以定義為象徵性、非強制性的影響，依靠的是論證，而不是強迫。勸服的目的是改變或者加強一個人的信念、態度和行為。這涉及到選擇的自由，因為被勸服者可以選擇接受或拒絕這樣的影響。我們在健康傳播方面的許多研究都是從這個角度出發，從而改變信念、態度和行為。

如果期望行為是期望受眾在接受了合理的論證或者針對性的感性訴求後有可能採取的措施，那麼現行的勸服學研究，就應該關注現有的健康和風險傳播理論模型，以及相應的研究方法是否對於讓大眾採取新冠病毒的預防措施有所貢獻。

我的研究小組最近發表的一篇論文中的一個研究可以提供一個範例。我們希望測試社會規範取向 (Social Norms Approach) 如何在大學裡發揮促進新冠病毒預防措施的作用。社會規範取向的模型與相應方法被證實是長期有效的，可以用於減少學生飲酒以及促進採取預防措施。當其他大專院校試著判斷社會規範取向是否能用於說服學生佩戴口罩、保持社交距離、限制室內聚會和接種疫苗，以遏止新冠病毒及其變異毒株的時候，我們的研究結果為他們提供可行的指南。

社會規範取向指出，對實際存在於某態度或行為的社會規範，人們會經常存有感知偏差。人們試著依照他們自己的參照群體的社會規範行事。如果關於社會規範的錯誤認知被健康宣導信息糾正，那些高估酒精飲料的消費量和認可度的學生就會減少自己的飲酒量。下面是這個模型的圖形表示：

Perkin (2003) 的社會規範取向



使用社會規範取向的第一步是確定實際的和被誤解的描述性規範 (descriptive norms, 即大部分人在做甚麼) 與命令性規範 (injunctive norms, 即他人對具體行為的認可程度)。大多數以社會規範方法為基礎的研究, 皆集中在減少校園內無節制飲酒的研究主題上。為將社會規範方法視為一個可行的選擇, 以用於推廣大學校園內對新冠病毒的預防行為, 我們最近的研究中 (a) 列出了大學可採用的形成性 (formative) 研究步驟, 從而決定基於社會規範取向的媒體宣導是否可用於說服學生採納更多新冠病毒防疫措施; (b) 介紹了美國的一所大型公立大學所收集的形成性研究數據; 以及 (c) 應用這些數據作測試案例, 進而評估社會規範取向用於增加該大學學生採納新冠病毒預防措施的可行性。該研究主要是基於一系列問卷調查的結果, 明確指出四種新冠病毒預防行為——公共場合佩戴口罩、保持社交距離、限制室內聚會的規模, 以及 (計劃) 進行疫苗接種——的描述性規範和命令性規範。我們的研究結果表明, 在這所大學裡, 基於社會規範取向的公共宣導活動是促進這些預防措施的有效策略。首先, 絕大多數的調查對象都表明他們正在實施這些預防措施。其次, 調查對象認為, 除了戴口罩外, 其他預防行為在現實中不太常見。最後, 問卷結果反映出, 調查對象低估了四種防疫措施的实际認可度 (這說明了調查對象對於实际的社會規範存在誤判)。該研究示範了如何利用現有的理論和方法進行形成性研究設計, 提供有效可行的信息, 從而在特定的社區中推廣新冠病毒的預防措施。因此, 當在新冠病毒大流行期間面臨新的健康挑戰的時候, 我們也可以測試其他理論和相關方法的效用。

《傳播與社會學刊》，(總)第64期(2023)

JS：那麼在新冠病毒大流行後的健康傳播研究中，我們應該做些甚麼？

SWS：我們需要關注以及理解因強制措施產生的負面反應，尤其是一些不屬於勸服和個人選擇範疇的強制措施。我們可以粗略地看一下2022年2月一家主流報紙上刊登的一封致編輯函，其中有這些詞：布告、法令、法律、指令、執行、規定、限制、封鎖、兩極分化和抗議。當人們被告知他們必須要做甚麼時，許多人都會產生極度的抗拒。這就會導致大眾對遏止新冠病毒傳播的指令、法律和法規產生負面的反應。

這種抗拒反應有四個組成部分：體驗自由、威脅自由、抗拒和恢復自由。自由是指個人以不被干預的方式進行思考、感受或行動。威脅是指個人思考、感受或行動能力的自由受到限制時的感覺。抗拒是一種內在的心理反應，也就是當一個人感受到自己的自由受到威脅時，心理內部所發生的狀態變化。最後，自由恢復是指恢復被威脅的自由的心理過程或實際行為。所以，一旦這種抗拒感產生，人們就會被驅使去恢復他們被限制的自由。這個過程可以通過直接手段實現，比如去執行被禁止的行為(例如，拒絕戴口罩或拒絕接種疫苗)，或通過各種其他的間接手段實現。

如前所述，按照定義，強制措施會限制自由。未來關於社會影響的研究，特別是在健康語境下，我們需要識別那些能夠減輕對強制措施產生抗拒的前因和信息特徵。一些已經探討過的主題可能適用於這個新的研究領域，包括減少信息對自由的威脅力度，特別是對那些有著較高程度的特質逆反(trait reactance)和尋求感官刺激(sensation seeking)的受眾。傳播學者已經發現減緩受眾對傳統說服性信息的抗拒心理的方法，也即讓受眾感知到他們有權決定是否接受信息推薦，比如說：試著避免使用控制性的語言、使用利得框架(gain frame)而不是損失框架(loss frame)或效能訴求(efficacy appeals)、或是在勸服信息裡引入共情(inducing empathy)。在強制措施的語境下測試各種信息特徵，很可能是我們作為健康傳播學者需要關注的下一個問題。

JS： 您剛才也提到，新冠疫情引起了學者及公眾對健康傳播極大的關注。您是否能為大家提供一個概述，向其他對公共健康和福祉感興趣的人介紹健康傳播的學科廣度？

SWS： 當我們進一步思考新冠病毒大流行之後的健康傳播研究狀況時，我相信，無論是普通大眾還是其他研究人員或者政策制定者，現在都會對我們的健康和風險傳播領域更感興趣。健康與風險傳播是一個重要的研究和實踐領域，在全球對許多其他研究領域都有著積極影響。研究健康和風險傳播的眾多專家所涉獵的專業廣度可能會讓人感到驚訝，當我自己試著要回答這個問題時，我也有同樣的感受。我能夠想到大量與健康、福祉、以及疾病預防、診斷、治療、護理、康復和倖存者有關的研究方向。但是，我對於這個問題的答案並不僅限於疾病相關的方向。相反，它側重於研究人員通過探索以理論為基礎的傳播過程和各種實踐應用，以取得積極的健康結果。

我很榮幸能夠在密歇根州立大學傳媒藝術科學學院工作，我們在這裡建立了一個由 Maria Lapinski 教授領導的以「健康的人類—健康的星球」(Healthy People-Healthy Planet) 為使命的健康和風險傳播中心 (Health and Risk Communication Center)。該中心以包括人類、動物和環境在內的「同一個健康」的健康傳播為理念。該中心成立於 1998 年，由 50 多名成員組成，他們來自我們學院的五個學系：傳播學、媒體和信息、廣告與公共關係、新聞，以及傳播科學與溝通障礙。健康和風險傳播中心還與我們自 1998 年就開設的健康與風險傳播碩士課程有聯繫。

僅從我們學院來看，我可以確定以下健康與風險傳播的重要研究和實踐領域：

- 科學傳播
- 風險傳播
- 環境傳播
- 健康傳播宣導
- 健康信息的傳播與擴散
- 認知神經/生物學與傳播學

《傳播與社會學刊》，(總)第64期(2023)

- 計算機輔助數據分析
- 人工智能
- 網絡分析
- 公共輿論
- 虛假/錯誤信息
- 消費者導向廣告
- 社交媒體對健康的影響
- 娛樂教育
- 紀錄片

除了關注我自己所在的學院以外，我最近有幸參加了肯塔基州2022年健康傳播會議。在那裡，我特別關注與會學者所討論的研究領域。該會的前期會議討論了健康傳播方面的學術研究與臨床醫學的合作關係。健康傳播的一個重要方向是圍繞傳播學者和臨床人員(如醫生、護士、藥劑師和其他醫務人員)之間的合作研究與實踐。

會議的主旨發言人是哈佛大學的Vish Viswanath教授。他發表了引人深思的有關全面福祉的開幕演講。Viswanath教授指出，世界衛生組織早在1946年就從身體、心理和社會方面對健康進行了定義。他指出福祉不僅是沒有疾病，也不僅是側重於疾病預防。正如我前面提到的，健康傳播的大部分研究都集中在疾病的預防、診斷、治療、護理、康復和疾病存活率方面。儘管這些仍然是需要我們關注的重要領域，但對福祉的全面關注使我意識到，健康和福祉是多維的，包括我們生活中的情感、精神、環境、職業、智力和身體等方面。福祉的另外一個重要組成部分包括情感的健康、有目的和有意義的生活、充實投入的人生、成就感和通達感(mastery)。哈佛大學有幸成為李錦裳健康與幸福研究中心(Lee Kum Sheung Center for Health and Happiness)的所在地，並立志於通過健康(Health)、幸福(Happiness)和和諧(Harmony)的3H來進行干預措施。我相信香港讀者對於李錦裳這個名字並不陌生，我也相信香港的學者也同樣重視對於健康和幸福的研究。總的來說，為了實現全面的

福祉，健康傳播研究必須轉化為促進全世界健康公平的公共政策。

JS：您向我們展示了健康傳播研究的廣度，以及其與其他學科的交織。那您對跨學科研究之間的合作有甚麼建議嗎？比如說，傳播學者和公共衛生科學家之間的合作。

SWS：首先很重要的一點是如何定義跨學科研究 (transdisciplinary research)。Kreps教授和Maibach教授在2008年的《傳播學刊》(*Journal of Communication*)中向大家介紹了這個概念，並提出公共衛生學和健康傳播學可以融合成為公共健康傳播學。就本質而言，跨學科研究是指來自不同學科的研究人員就同一問題或議題上合作。然而，跨學科研究超越了傳統的學科間研究 (interdisciplinary research)，因為跨學科研究的團隊是把科學家聚集起來，共同發展出全新的、概念上的、理論上的、方法上的突破性創新，並且通過這種方法形成一種超越各個學科固有方法的途徑，來解決共同的問題 (Harvard School of Public Health, 2014)。

當你試圖理解這一概念時，想像我們正在突破傳統的學科間交流方法，並在嘗試著通過不同學科的研究人員合作與互動，形成協同思考並解決問題的新思維模式。為了達到這一點，研究的重點應該是對於任何一個學科來說都無法獨自解決的龐大問題。以往曾討論的題目有錯誤和虛假信息 (dis- and misinformation)，但除此之外，還有一些同樣舉足輕重的問題值得我們健康傳播學者的重視。一旦某個問題得到了重視，若能集合不同領域的研究專家共同研究並嘗試解決該問題，這是非常重要的。每一組學者都來自於獨特的研究領域，所以作為傳播學者，我們要發揮我們的專長，但是也要試著與其他學科的研究者們進行融合，力圖組成一個真正的跨學科研究團隊。這種合作模式已經屢見不鮮了。早於2003年，我便參與了一個研究項目，研究持續了整整17或18年，最近才剛剛結束。另一個我參加的跨學科研究項目也已經持續了七年，並且還在進行當中。在這裡，我想強調的是，傳播學者其實可以為與健康有關的大規模和長期研究帶來巨大貢獻。

《傳播與社會學刊》，(總)第64期(2023)

乳腺癌與環境研究中心 (Breast Cancer and Environment Center, BCERC) 後來轉型成了一個研究項目團隊 (Breast Cancer and Environment Research Program, BCERP)。美國國防部 (United States Department of Defense) 是第一個認可研究環境因素對乳腺癌作用的機構，隨後美國國家衛生研究院 (National Institutes of Health)、國家癌症研究所 (National Cancer Institute) 和國家環境健康科學研究所 (National Institute of Environmental Health Sciences) 也資助了這個項目。這項研究背後的想法是環境裡化學、物理、社會因素與遺傳因素等在一定環境裡能相互作用，並共同影響罹患乳腺癌的機率。尤其值得注意的是，這些因素會通過因青春期和人生中一些其他的關鍵時期 (critical periods) 產生的易感性窗口 (windows of susceptibility)，影響乳腺發育，從而增加日後患乳腺癌的風險。這個項目包括了來自生物學系、流行病學系、傳播學系的研究人員，而且非常重要，社區意見領袖都是長期以來我們共同合作的跨學科團隊成員。誠然，不同團隊的成員在一起工作難免會帶來挑戰，這點我之後會再說明。

寬泛地講，我們為 BCERC/P 所做的是根本性的工作。比如說，我們記錄相關方的信念、態度和行為，這裡的相關方是指兒科醫護人員、青春期前期或正在經歷青春期的女孩，以及她們的監護人。我們通過形成性分析來做這項工作 (Neuberger et al., 2011; Silk et al., 2006)。在我們進行形成性分析的同一時期，流行病學家也會開始招募女性受測者並在一段時間內對其進行測試，而生物學家則同時進行動物研究。團隊中的生物學家和社區意見領袖與我們在工作上最為密切。當生物學家有重要的新發現時，傳播學者就會根據這些研究結果設計相應的信息、逐步修改並測試其效果。我們著眼於受眾的風險認知和態度形成 (risk perceptions and attitude) (Smith et al., 2017)，以及著重於健康素養 (health literacy) 在信息處理過程中的角色 (Hitt et al., 2016; Silk et al., 2012; Smith et al., 2013)。同樣的，我們也向重要的利益相關者提供溝通技巧。在美國的一些學校裡，

有推廣代理這樣一類職位。他們在自己工作的州內遊走並傳遞信息。通常情況下，他們傳遞的都是有關於農業問題的信息，然而，我們能夠爭取使他們為我們的項目添加助力。我們教他們如何散布信息、如何進行焦點小組訪談等。他們也由此學到了很多重要的技能，並能夠與他們的服務對象分享有益的信息。最後，我們與密歇根州立大學的公共電視台(WKAR)合作，製作了一個長達三小時的醫學繼續教育節目(continuing medical education)，該節目主要以兒科醫療工作者為受眾。這檔節目已經過審，並正在公開播映。

以上是對BCERC/P在過去17到18年的一個簡短的概述，作為致力於減輕環境對乳腺癌影響的跨學科團隊一員的傳播學者，我們可以看到，方方面面都已經發揮出根本性的作用。因此我也希望作為健康傳播學者的各位，能了解到自己擁有足夠的相關技能和能力，學習如何善用健康傳播學的專業知識，在跨學科團隊中扮演重要角色。

JS： 最後，請問您能否給予青年傳播學者一些建議，特別是在參與跨學科的研究項目方面？

SWS： 讓我想像一下，如果我再次成為一名年輕的助理教授，我該如何去尋找這樣的一個大型項目。我想到最近剛收到一封來自美國國家科學基金會(National Science Foundation, NSF)的郵件，當中介紹了他們有意資助的變革性項目。他們提到了十個具有變革性的大課題，並說明如要研究這些課題，必須要有新穎的研究取向和方法。他們表示這將需要一個跨學科的團隊促成各學科的人合作，而團隊人員將不僅僅限於學術界，還有來自工業界、私人基金會、其他機構、科學院、學會，以及大學的人一起工作。而其他資助機構，例如患者導向醫療效果研究所(The Patient-Centered Outcomes Research Institute, PCORI)也會要求非專業人士在研究的各個階段加入資助團隊，由此可見，跨學科研究的想法，不應該僅限於學術圈之內。

「理解生命的規則：預測表型」項目(*Understanding the Rules of Life: Predicting Phenotype*)是NSF的大型變革性項目之一。這

《傳播與社會學刊》，(總)第64期(2023)

無疑是一個大型課題。面對如此課題，不同的研究學科都在尋求各種各樣的提案。NSF的一個名為社會、行為和經濟科學的研究領域與我們所做的大部分工作都緊密相關。他們的提案叫做「理解生命的規則：應急網絡」(*Understanding the Rules of Life: Emergent Networks*)。他們積極倡導關注各類相互交織的網絡，從細胞到個人、群體、組織和社會層面。而傳播學領域的人所做的社交網絡分析工作在這裡則顯得意義重大。這只是其中一例，供大家參考如何組建新團隊或向已組成的跨學科團隊提供傳播學相關貢獻。

至於哪些有關健康和風險的課題是適合進行跨學科研究？哪些是適合進行全球研究？又有哪些專門適合在亞洲地區內研究？五年來，我一直工作於PCORI一個著重交流和傳播工作的委員會。他們受助於美國政府和保險公司，委員會基金的申請方必須從構思資助課題和提案的起步階段至項目的收尾階段，皆有患者權益倡導者參與，以達到以患者需求為項目導向，而這種做法更是促進跨學科團隊合作的一個方式。

終生健康似乎是亞洲地區的一個重要話題。我看了一些香港及其他亞洲各地的研究機構的網站，裡面提供了針對嬰兒、兒童、壯年人和老年人的不同側重點。正如之前所提到的，在我們有關乳腺癌的研究中，儘管許多年齡段的男性和女性也會得乳腺癌，我們的重點只放在青春前期或正值青春期的女孩。另一個值得一提的是電子健康(e-health)。當然，這也與之前提到的虛假信息和誤導信息的話題有關，其趣味性和重大意義是毋庸置疑的。目前有一個跨學科研究團隊在新冠病毒大流行期間，針對亞洲的四個地區，即中國大陸、台灣、香港和新加坡的數據，研究錯誤信息的起源和影響。所以，一定有適合跨學科研究的課題供青年學者們貢獻自己的力量。

每當我們心自問，作為傳播學者，怎樣才能為在跨學科研究的領域佔一席之地做好準備，就會意識到其實我們已經做了能夠做的。現在只需要發揮我們在傳播學理論、方法和傳播宣導過程等方面的知識，以及運用我們的專業技能為其他領域的

後疫情時代的健康傳播及跨學科研究

專家進行關於傳播學各方面的培訓。我們對信息的關注點在學術界也是十分獨特的，而我們的跨學科研究亦已頗有成效。

那麼對於傳播學者來說，跨學科研究的好處和障礙是甚麼呢？首當其衝的好處是，當我們共同關注一個宏大議題時，可以接觸到各種各樣的學科。而通過這種方式，我們可以了解其他人在如何進行研究，並向他們學習。當然，從團隊協作中體會到的興奮和自豪感也屬於另一種好處。每當我們在BCERC/P上取得一些成就時，所有人都會感到很興奮，這使我們更加團結。而往往這種長期的項目對職業生涯也是很有幫助的，因為你不需要一次又一次地開展新的研究，而是在已有的基礎上繼續拓展。而且這些項目往往都有充足的資金，這就消除了研究過程中的某些障礙。

然而，跨學科團隊研究也有幾個缺點。我不會在剛加入一個跨學科團隊的時候，就期待文章能快速發表，因為思考和找到團隊協作的方法需要很多時間。我們覺得，作為傳播學者，在獲得隊員尊重方面是有一些困難的。有時人們並不是一開始就能理解傳播學者的工作。我們花了好幾年時間，才打破這個障礙，獲得了其他團隊成員的尊重。有時候我們在一些問題上也有分歧，比如說，甚麼時候適合發表研究結果，因為一些生物學家並不想在社區意見領袖想發表研究結果的時候就立刻發表出來。跨學科研究就是這樣，既有好處的同時也會有一些缺點。

最後，我諮詢了身邊的美國亞裔同事和學生，希望能為亞洲的青年傳播學者提供一些建議。但是，我有義務給不太了解密歇根州立大學的讀者解釋一下，我們的研究都是從後實證主義(post-positivist)的角度出發。所以，如果你是做解釋批判學和文化研究的學者，我所說的可能都不是好的建議。我身邊有人給出的建議是發展跨領域和跨地域的社交網絡，這可以成為你開拓新世界的橋樑。比如當參與類似ICA這樣的會議時，請試著拓展你的網絡。另一位學者建議的是不要僅僅重複驗證或者照搬西方的理論研究，而是要做超越對某個特定環境的專題研究。當然，我個人認為進行驗證和複製研究並不是完全不可

《傳播與社會學刊》，(總)第64期(2023)

行，因為這本來就是科學的一個重要部分。也許他們所強調的更多是要把研究去情境化，更多地關注理論發展，讓世界了解你的研究對傳播學的推進作用。比如說你可以先著手研究和解決一個局部的現象，然後再進一步證明這份研究結果也可以被推廣到其他地區。

他們也建議將學術研究結果轉化為對現實生活的影響。這一點我也十分贊同，比如，使用共同的學術語言、建立或找到與其他研究人員的共同點，以及將社會問題和解決方案進行類比，從而將研究廣泛傳播開去。在作這一切的同時，也要隨時留意所在的學術機構的關注重點和激勵機制。以上就是我為年輕的傳播學者提供的一些建議。

桑迪·史密斯教授著作選

- Smith, S. W., Atkin, C. K., Martell, D., Allen, R., & Hembroff, L. (2006). A social judgment theory approach to conducting formative research in a social norms campaign. *Communication Theory*, 16(1), 141–152.
- Smith, S. W., Atkin, C., Skubisz, C. M., Nazione, S., & Stohl, C. (2009). The impact of personal and/or close relationship experience on memorable messages about breast cancer and the perceived speech acts of the sender. *Journal of Cancer Education*, 24(2), 129–134.
- Smith, S. W., Hitt, R., Nazione, S., Russell, J., Silk, K., & Atkin, C. K. (2013). The effects of motivation, ability, and heuristic cues on systematic processing of information about breast cancer environmental factors. *Journal of Health Communication*, 18(7), 845–865.
- Smith, S. W., DeJong, W., Turner, M. M., Park, S., Jang, Y., Poole, A., Martell, D., & Salerno, J. (2021). Determining whether public communications campaigns based on the social norms approach are a viable COVID-19 prevention strategy for college campuses. *Journal of Health Communication*, 26(11), 792–798.
- Smith, S. W., Ellis, J. B., & Yoo, H. J. (2001). Memorable messages as guides to self-assessment of behavior: The role of instrumental values. *Communication Monographs*, 68(4), 325–339.
- Smith, S. W., Hamel, L. M., Kotowski, M. R., Nazione, S., LaPlante, C., Atkin, C. K., Stohl, C., & Skubisz, C. (2010). Action tendency emotions associated with memorable breast cancer messages and prevention and detection behaviors. *Health Communication*, 25(8), 737–746.

Smith, S. W., Smith, S. L., Pieper, K. M., Yoo, J. H., Ferris, A. L., Downs, E., & Bowden, B. (2006). Altruism on American television: Examining the amount of, and context surrounding, acts of helping and sharing. *Journal of Communication, 56*(4), 707–727.

參考文獻

- Harvard School of Public Health (2014, May 14). *2014 Harvard TREC Annual Conference*. Harvard Transdisciplinary Research in Energetics and Cancer Center. <https://www.hsph.harvard.edu/trec/2014-harvard-trec-annual-conference-2/>
- Hitt, R., Perrault, E., Smith, S., Keating, D. M., Nazione, S., Silk, K., & Russell, J. (2016). Scientific message translation and the heuristic systematic model: Insights for designing educational messages about progesterone and breast cancer risks. *Journal of Cancer Education, 31*(2), 389–396.
- Miller, G. R. (2013). On being persuaded: Some basic distinctions. In J. P. Dillard & L. Shen (Eds.), *The SAGE handbook of persuasion: Developments in theory and practice* (pp. 70–82). Sage Publications, Inc.
- Neuberger, L., Silk, K. J., Yun, D., Bowman, N. D., & Anderson, J. (2011). Concern as motivation for protection: An investigation of mothers' concern about daughters' breast cancer risk. *Journal of Health Communication, 16*(10), 1055–1071.
- O'Keefe, D. J. (2002). *Persuasion: Theory and research* (2nd ed.). Beverly Hills: Sage Publications.
- Perkin, H. W. (2003). The emergence and evolution of the social norms approach to substance abuse prevention. In H. W. Perkins (Ed.), *The social norms approach to preventing school and college age substance abuse: A handbook for educators, counselors, and clinicians* (pp. 3–17). Jossey-Bass/Wiley.
- Silk, K. J., Bigsby, E., Volkman, J., Kingsley, C., Atkin, C., Ferrara, M., & Goins, L. -A. (2006). Formative research on adolescent and adult perceptions of risk factors for breast cancer. *Social Science & Medicine, 63*(12), 3124–3136.
- Silk, K. J., Nazione, S., Neuberger, L., Smith, S., & Atkin, C. (2012). Investigating the impact of message format, involvement, scientific literacy, and education on attitude toward reducing cancer risk through regulation. *Journal of Cancer Education, 27*(1), 172–178.
- Smith, S. W., Hitt, R., Nazione, S., Russell, J., Silk, K., & Atkin, C. K. (2013). The effects of heuristic cues, motivation, and ability on systematic processing of information about breast cancer environmental factors. *Journal of Health Communication, 18*(7), 845–865.
- Smith, S. W., Hitt, R., Russell, J., Nazione, S., Silk, K., Atkin, C. K., & Keating, D. (2017). Risk belief and attitude formation from translated scientific messages

《傳播與社會學刊》，(總)第64期(2023)

about PFOA, an environmental risk associated with breast cancer. *Health Communication*, 32(3), 279–287.

本文引用格式

桑迪·史密斯、石靜遠(2023)。〈後疫情時代的健康傳播及跨學科研究〉。《傳播與社會學刊》，第64期，頁1–28。

Health Communication and Transdisciplinary Research in the Post-Pandemic Era

Academic Dialogue with **Sandi W. SMITH**

**Health Communication and Transdisciplinary Research
in the Post-Pandemic Era**

SWS: Sandi W. SMITH

JS: Jingyuan SHI

JS: As a veteran in health communication with about 40 years of experience, how do you think the COVID-19 pandemic has influenced theory-based health communication research and corresponding research methods?

SWS: Our two long years of experiencing the worldwide spread and devastation of COVID-19 have certainly heightened public awareness of, and the necessity for, health communication and public health campaigns. We have engaged in interpersonal communication about COVID-19 with friends, family, co-workers, and those in the public sector with whom we have relationships. Likewise, we have received messages and information through mass media channels from government agencies about the need to engage in protective COVID-19 behaviors, such as social distancing, mask-wearing, and receiving vaccinations. Some of these messages can be seen by the public as sound arguments, some as misinformation, some as threats to freedom, and others as lifesaving. As health communication scholars, we need to think about how this worldwide pandemic potentially uncovered areas of future opportunities for theory and methods to improve our research and outreach.

One way we can think about the body of research needed both during and post-pandemic is to break it down into traditional persuasive communication versus that which contains mandates. Drawing on different ideas from important scholars in the field of persuasion such as Daniel O’Keefe (2002) and Gerald Miller (2013), persuasion can be defined as symbolic, non-coercive influence that relies on argumentation, not force. It is intended to change or reinforce

Communication and Society, 64 (2023)

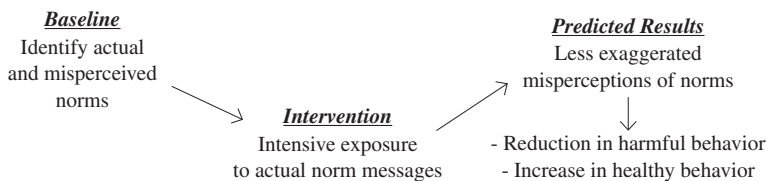
beliefs, attitudes, and behaviors. It involves freedom of choice in that the person being persuaded has a choice to accept or reject the influence attempt. Much of our work in health communication has focused on this perspective to change health beliefs, attitudes, and behaviors.

To the extent that the desired behavior in question is one that the desired audience is likely to perform after receiving reasoned arguments or targeted emotional appeals, then the persuasive research conducted to date should be examined to see whether existing theory and models of health and risk communication and their associated methods can contribute to people enacting COVID-19 protective behaviors.

One example is the work reported on in a recent article by a research team of which I am a member. We wanted to test the utility of the Social Norms Approach in promoting COVID-19 protective behaviors in the college context. The Social Norms Approach has proven to be an effective long-term model with associated methods for reducing alcohol consumption and increasing protective behaviors. The results of this research effort were presented as a primer for other colleges and universities to use when trying to determine if a well-accepted approach to reducing alcohol consumption would be viable when trying to persuade college students to engage in mask-wearing, social distancing, limiting indoor gatherings, and getting vaccinated to reduce the spread of COVID-19 and its variants.

The Social Norms Approach claims that individuals often have distorted perceptions of true norms for attitudes and behaviors. People try to live up to the norms that they believe to be operative in their reference groups. Students who believe that alcohol consumption is higher and more approved than it actually is should consume less alcohol when these misperceptions are corrected via campaign messages. Below is a graphic representation of this model:

Perkin's (2003) Social Norms Model



Health Communication and Transdisciplinary Research in the Post-Pandemic Era

The first step in the social norms process is to identify actual and misperceived descriptive (what people do) and injunctive (how much people approve of the behavior) norms. The majority of the work using the Social Norms Approach has focused on reducing extreme drinking on college campuses. To provide a primer on the Social Norm Approach as a viable option to use on college campuses with COVID-19 protective behaviors, the research (a) outlined the formative steps that universities can follow to determine if a media campaign based on the Social Norm Approach is a viable method for increasing COVID-19 prevention behaviors among their students, (b) presented formative research data collected at a large public land-grant university in the U.S., and (c) as a test case, applied that data to assess the viability of the Social Norm Approach for promoting COVID-19 prevention behaviors among students at that institution. The research presented is based on the results of a series of surveys that were conducted to determine the descriptive and injunctive norms for four COVID-19 prevention strategies: wearing a mask in public, physical distancing, limiting the size of indoor gatherings, and receiving or planning to get a vaccination. The results demonstrated that, at this particular university, a Social Norm Approach based public communications campaign would be a promising strategy for promoting these protective behaviors. First, a clear majority of the survey respondents reported engaging in the behaviors. Second, the respondents perceived the behaviors to be less common than the actual case, with one exception: wearing a mask. In all four cases, they perceived the behaviors to be less approved of than what the surveys documented (this reflects a misperception of social norms). This article exemplifies how to use existing theories and methods to carry out formative research with the end goal of producing messages that encourage people to engage in COVID-19 protective behaviors in a particular community. Other theories and associated methods could thus be tested for their utility in the face of new health challenges such as during the pandemic.

JS: What are the next steps we should take in post-pandemic health communication research?

SWS: New attention is needed to understand negative reactions to *mandates* which are outside of the realm of persuasion and personal choice. A casual glance at a letter to the editor of a leading newspaper in Feb. 2022 included the words: edicts, decrees, laws, mandates,

Communication and Society, 64 (2023)

enforcement, dictates, restrictions, lockdowns, polarization, and protests. When being told what they must do, many people experience extreme reactance, which leads to harmful reactions to the mandates/laws/orders meant to mitigate the spread of COVID-19.

There are four components to reactance: experienced freedom, threat to freedom, reactance, and restoration of freedom. Freedom involves thinking, feeling, or acting in a particular way without interference. Threat refers to the perception that being able to think, feel, or act freely is being threatened. Reactance is the internal state that occurs when a person feels that his or her freedoms are being threatened with elimination. Finally, restoration of freedom is the psychological process or actual behavior that is enacted to restore the threatened freedom. Once reactance occurs, people are driven to reestablish their limited freedoms, which can occur through direct means, such as enacting forbidden behaviors (such as refusing to wear a mask or get a vaccination), or through a variety of indirect means.

As noted, by definition mandates do limit freedoms. Future research on social influence, particularly in the health context, needs to determine the antecedents and message features that mitigate reactance to the mandates. Some issues that have been studied and that might apply to this new area of study are reducing the strength of the threat to freedom in the message, particularly for those who are high in trait reactance and sensation seeking. Trying to avoid controlling language in the mandated message, using gain versus loss frames and efficacy appeals, and inducing empathy in the message receiver are some ways that communication scientists have found to reduce reactance to traditional persuasive messages where receivers perceive that they have the choice to adopt the message recommendations. Testing these message features in the context of mandated messages may well be the next issue that we need to address as health communication scholars.

JS: As you mentioned earlier, the COVID-19 pandemic has directed both scholars and laypeople's attention to health communication. Can you provide an overview to introduce others interested in health and wellness to the breadth of health communication scholarship?

SWS: As we reflect further on the state of health communication research after the COVID-19 pandemic, I believe that both the general public

Health Communication and Transdisciplinary Research in the Post-Pandemic Era

and other researchers and policymakers are now more interested in our field of health and risk communication. Health and risk communication is a vital area of research and practice with many prosocial outcomes across the globe and across many research domains. The breadth of experts across numerous fields who study health and risk communication might be surprising, as I know that I myself was surprised when I began to answer this question. I was able to generate a wide-ranging number of specialty areas that are integral to studying health; well-being; and the prevention, diagnosis, treatment, maintenance, recovery, and survivorship of disease. This answer is not disease-specific. Instead, it is focused on the different ways that researchers study theoretically-grounded communication processes and practices to bring about positive health outcomes.

I am fortunate to work in the College of Communication Arts and Sciences in which we have the Health and Risk Communication Center (HRCC): Healthy People-Healthy Planet that is headed by Professor Maria Lapinski. It is based on an “One Health” approach to health communication which cuts across human, animal, and ecological health. This center, which was started in 1998, has over 50 members from the five departments in our college: Communication, Media and Information, Advertising and Public Relations, the School of Journalism, and Communication Sciences and Disorders. The HRCC is also associated with our Health and Risk Communication Master’s Degree program which has been active since 1998.

From our college alone, I was able to identify the following important areas of study and practice in health and risk communication:

- Science Communication
- Risk Communication
- Environmental Communication
- Health Communication Campaigns
- Dissemination/Diffusion of health information
- Neurocognitive and Biological Communication
- Computational Data Analysis
- Artificial Intelligence
- Network Analysis

Communication and Society, 64 (2023)

- Public Opinion
- Dis- and misinformation
- Direct to consumer ads
- Influence of social media on health
- Entertainment Education
- Documentary films

In addition to examining my own College of Communication Arts and Sciences, I was fortunate to attend the Kentucky Conference on Health Communication 2022 recently. While there, I paid special attention to the realms of research being discussed by attendees. The pre-conference addressed academic-clinical partnerships in health communication. An important area of health communication centers around joint research and practice between communication scholars and health clinicians including doctors, nurses, pharmacists, and other medical personnel.

The main conference keynote speaker was Professor Vish Viswanath of Harvard University. He gave a thought-provoking opening talk about comprehensive well-being. Well-being is not just the absence of symptoms or disease, nor is it solely focused on disease prevention. As I mentioned earlier, much health communication research has focused on the prevention, diagnosis, treatment, maintenance, recovery, and survivorship of disease. Although these are still important areas of our attention, a focus on comprehensive well-being acknowledges that health and well-being are multi-dimensional and include emotional, spiritual, environmental, occupational, intellectual, and physical aspects of our lives. Professor Viswanath pointed out that the WHO defined health in physical, mental, and social terms as early as 1946. Harvard is privileged to be the site of the Lee Kum Sheung Center for Health and Happiness. I am sure that this is a name that is familiar to those of you in Hong Kong, as is the focus on health and happiness that you have been teaching in your schools. And through the 3H interventions of Health, Happiness, and Harmony. Other important components of well-being are emotional health, meaning and purpose in life, an engaged life, and accomplishment and mastery. In order to achieve comprehensive well-being, health communication research must be translated into policies that promote health equity worldwide.

Health Communication and Transdisciplinary Research in the Post-Pandemic Era

JS: You have shown us the breadth of health communication research and how it intertwines with other disciplines. In addition, do you have any suggestions for working with interdisciplinary research? For example, a collaboration between communication scholars and public health scientists.

SWS: The first important thing is to define transdisciplinary research. Kreps and Maibach introduced this concept to our field in 2008 in the *Journal of Communication* where they proposed a transdisciplinary merger between public health and health communication to form public health communication. Transdisciplinary research is basically research that is conducted by investigators from different disciplines on a common issue or problem. However, this idea goes beyond interdisciplinary research, as transdisciplinary teams are working jointly to create new conceptual, theoretical, methodological, and translational innovations that integrate and move beyond discipline-specific approaches to address a common problem (Harvard School of Public Health, 2014). Some of the other chapters in this book provide a foundation for this concept and process. Please keep in mind that the idea here is beyond interdisciplinarity and moves into new territory that is transdisciplinary in nature.

As you come to understand the concept, imagine that we are moving beyond interdisciplinarity in that we are trying to form a synergistic new way of thinking about problems and issues by researchers from different disciplines interacting and working with one another. In order to do this, the focus should be on a problem or an issue that is too vast for one field to address. One such topic discussed earlier was dis- and misinformation, but there are some other broad issues that are very important to us right now as health communication scholars. Once the topic is in focus, it is important to create a group of researchers from different relevant fields that come together to work on solving or mitigating this problem or issue. Each group of researchers is from a particular field, so as communication scholars, we would bring to bear our expertise, but we would try and merge it with that of the others to form a true transdisciplinary team. This obviously has occurred over a long period of time. The project I am going to highlight started in 2003 and is just winding down, so it has spanned about 17 or 18 years. Another transdisciplinary

Communication and Society, 64 (2023)

project that I have been working on has been going on for about seven years, and it is still continuing. Here, I want to focus on the fact that communication scholars have a lot to bring to this table for health-related large-scale and long-term research projects.

The Breast Cancer and the Environment Research Center later changed into a research program (BCERC/P; Breast Cancer and Environment Research Program). The Department of Defense (DOD) in the United States was the first group to endorse studying the possible impacts of environmental factors on breast cancer, and then the National Institutes of Health (NIH), in particular, the National Cancer Institute (NCI) and the National Institute of Environmental Health Sciences (NIEHS), invested in it. The idea behind this program of research was that chemical, physical, and social factors in the environment interact with genetic factors to affect the likelihood of developing breast cancer. In particular, these factors can affect mammary gland development during puberty and at critical periods across the lifespan during windows of susceptibility that can alter breast cancer risk in later life. This project has researchers from biology, epidemiology, and communication, but also, very importantly, community advocates as members of the transdisciplinary team for the entire time that we worked together. Admittedly, there were some challenges to merging all of these groups, which will be addressed later.

The work that we did for the BCERC/P is conceptual in a very loosely defined and applied sense. For example, we were able to document the beliefs, attitudes, and behaviors of relevant stakeholders, who here are pediatric healthcare workers, pre-pubertal and pubertal girls, and their caregivers. We did this through formative analysis (Neuberger et al., 2011; Silk et al., 2006). At the same time that we were working on the initial formative analysis, the epidemiologists were working on enrolling cohorts of girls and testing them over time, while the biologists were working on animal studies. Our center/program had biologists and community advocates working most closely with us. The biologists generated some important findings, and we in the field of communication designed, refined, and tested the messages that came from the findings. We looked at risk perceptions and attitude formation (Smith et al., 2017) and message processing with an emphasis on health literacy (Hitt et al., 2016; Silk et al.,

Health Communication and Transdisciplinary Research in the Post-Pandemic Era

2012; Smith et al., 2013). We also taught communication skills to important stakeholders. We had extension agents in certain schools in the United States. These were people who go out throughout the state where they work to spread information. Often, it is about agricultural issues, however, we were able to enlist their help with this project. We taught them how to disseminate information and how to conduct focus groups themselves. They learned a lot of important skills and shared information that was beneficial to their constituents. And then, finally, we created a three-hour continuing medical education program (CME) with our public TV station at MSU, WKAR, which targeted pediatric healthcare workers. That CME was evaluated and is now disseminated publicly.

This is a very brief overview of the course of the BCERC/P over the past 17 or 18 years, and all different things have come into play conceptually for us communication scholars who are part of a transdisciplinary team working on mitigating environmental influences on breast cancer. As I hope that you can see, you have the skills and ability to learn how to use our expertise as health communication scholars to serve as important members of a transdisciplinary team.

JS: Finally, can you give some advice to junior communication scholars? Especially for engaging in interdisciplinary research projects.

SWS: I wanted to imagine if I was young again and as an assistant professor, how would I go about finding a large-scale project like this? I remembered an email that I just received recently from our National Science Foundation (NSF) in the U.S. It was introducing transformative projects that they want to start funding. They identified 10 transformative big topics, and they said research on them is going to require novel approaches and methods. They stated that is going to involve collaborations with people from multiple disciplines requiring a transdisciplinary team, but they went beyond academe and suggested people from the industry, private foundations, other agencies, science academies and societies, and universities working together. Other funding agencies such as the Patient-Centered Outcomes Research Institute (PCORI) require lay advocates to be an integral part of grant teams at all phases of the investigation, thus endorsing the idea of transdisciplinary research outside the boundaries of academe only.

Communication and Society, 64 (2023)

One of these NSF large-scale transformative projects is called *Understanding the Rules of Life: Predicting Phenotype*. That is certainly a grand-scale topic. Within that umbrella, different directorates are issuing different research proposal calls. A NSF directorate called social, behavioral, and economic sciences is quite relevant to much of what we do. Their call is *Understanding the Rules of Life: Emergent Networks*. They encourage a focus on intertwined networks, from the cellular, to the individual, to the group, to the organizational and societal levels. All of the network analysis works that people in our field do would be quite relevant here. This is but one example of a place where you could go to look, try to form a team, or offer the services of communication scientists to those already forming transdisciplinary teams.

What health and risk issues lend themselves to transdisciplinary research? Globally? In Asia? For five years, I have served on a panel that centers on communication and dissemination for PCORI. They are well-funded by the U.S. government and insurance companies. They fund only applicants who have patient advocates involved right from the very beginning of conceptualizing the grant topic and proposal and all the way through the entire process to get to the level of patient-centered health, and that is an idea that promotes transdisciplinary teams.

Health across the lifespan looks to be an important topic in Asia. I was looking at some websites of some research institutes in Hong Kong and across Asia, and I saw different foci on infants, children, adults, and the aging. As I talked to you about in the breast cancer work we did, our focus was on pre-pubertal and pubertal girls, although men and women of many ages can get breast cancer too. Another large issue is e-health; and of course, tying into the topic of dis- and misinformation that we heard so much about in the panel that was really interesting and informative. I understand there is a transdisciplinary team studying the origins and consequences of infodemics during COVID-19 in four societies in Asia: Mainland China, Taiwan, Hong Kong, and Singapore. So, there is certainly research that lends itself to transdisciplinary research for you to find and offer your services.

When I asked myself how we can prepare ourselves to have a seat at this table for transdisciplinary research as communication scholars,

Health Communication and Transdisciplinary Research in the Post-Pandemic Era

I realized that we have already done much of it. I think we just need to bring to bear our knowledge of communication theories and methods, of communication campaign processes, and our knowledge skills to train experts in other fields on various aspects of communication. Our focus on messages is somewhat unique in the world of research, and it was fruitful in the transdisciplinary research that we conducted.

What are the benefits and barriers of transdisciplinary research for communication scholars? A definite benefit is an exposure to other disciplines when we have a common focus on a large-scale problem or issue. In that way, we can understand how other people approach the research and learn from them. Certainly, excitement and pride in the work of the team are a benefit. We found that as we hit some benchmarks on the BCERC/P, we got excited collectively and it brought us together more as a team. Very long-term projects are great for your career because you do not need to initiate new research over and over but instead scaffold on those that you have already begun. Usually, these projects are well-funded, and this removes certain barriers in the research process.

However, there are several drawbacks to transdisciplinary team research. I would not try to get on a transdisciplinary team expecting a quick turnaround of articles, because it takes a lot of time to create ideas and projects and to find a way to work as a team. We felt that we, as communication scholars, had some difficulty in gaining respect. Sometimes people initially do not understand what communication scholars do. It took us years, but we finally cracked the barrier and gained the respect of the other team members. We also had problems agreeing on issues, such as when it is appropriate to publish findings, because the biologists did not want to publish the findings at the time that the advocates wanted to publish and disseminate them. These were just some of the things that were both very nice benefits and some drawbacks as well.

Finally, I asked several of my colleagues and students who are Asian scholars in the U.S. to give some advice to younger Asian communication scholars. But I must give you a fair warning for those of you who do not know about MSU. We operate from the post-positivist perspective. So, everything that I am going to tell you might not be good advice for interpretive or critical and cultural scholars.

Communication and Society, 64 (2023)

Some of the advice my contacts gave was to develop networks across fields and locales because that can be a bridge for you to other parts of the world. So, as we go back to meetings such as ICA, try and develop those networks, if you can. One of them suggested going beyond replications or re-tests of Western theories and to move beyond niche studies of a local phenomenon. I believe what this person meant was to decontextualize your research, and I personally think it is fine to conduct re-test and replication studies because replications are an important part of science. At the same time, perhaps decontextualize the research and focus more on the theoretical advancements that you are making to let the world know about those advancements to the process of targeting communication phenomena under study. You could study and address a local phenomenon, but then show how it can be generalized to other areas, as well.

They suggested translating academic research findings to places where real-life impacts are possible. I completely agree with that, as well, such as using shared academic language, building or finding common ground with other researchers, and making analogies to social problems and solutions. Disseminate your research widely. It is critical to do all of this while remaining mindful of what your academic institution values and rewards; never lose sight of that. That is my advice for young scholars in the field of Communication.

Selected Works by Sandi W. Smith

Please refer to the end of the Chinese version of the dialogue for Sandi W. Smith's selected works.