

# 科技部補助專題研究計畫成果報告 期末報告

關於陰柔/陽剛氣質、恐同、身體意象的歧視和內化：對青少年  
社會網絡位置和精神健康的影響 (K01)

計畫類別：個別型計畫  
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報告附件：出席國際學術會議心得報告

中華民國 107 年 10 月 22 日

中文摘要：背景：台灣社會在2016年熱烈地討論同性婚姻合法化議題，提高了大家對非異性戀社群所處的社會環境的關心。然而目前我們幾乎不知道台灣的青少年目前如何看待同性議題。與肥胖，性傾向和性別氣質有關的歧視可能是青少年最常見的歧視類型，這些類型之間的相互作用卻很少被研究。

研究目的：本計劃有三個目的：(1) 研究從歧視到歧視內化的路徑，再進而影響青少年的社會網絡位置和精神健康；(2) 評估三種歧視的交互作用-- 性傾向、性別氣質和身體意象；(3) 研究歧視經驗和社會網絡的相關，使用網絡組成、異質性、密度、中介度等指標，並且比較自我填答的社會網絡和臉書上的社會網絡差異。

方法：我們將從北，中，南三個國中招募3000名青少年。同意參加的青少年會在課堂上填一份問卷，內容包括感受到的歧視的測量、精神健康和社會網絡測量等等。學生得健康檢查身高體重紀錄和學業成績會被串連。另外也使用Python程式語言收集部分Facebook數據。統計分析將使用結構方程模型和社會網絡分析去回答研究假說。

重要性：本研究結果可以幫助識別最弱勢群體，有助於制訂未來政策。本研究回應科技部性別與科技研究的重點主題「性別友善環境之研究」(K01) 考量多元性別在教育場域及職場互動中處境的計畫徵求。

中文關鍵詞：青少年；恐同；性別氣質；性傾向；汙名化；歧視；憂鬱；陽剛；陰柔

英文摘要：Background: Stigma is a fundamental cause of health inequalities. Heated discussion of legalizing same-sex marriage in 2016 raised awareness of the social environment of lesbian, gay, bisexual and transgender communities in Taiwan. Very few studies have examined the perception of homosexuality in Taiwan. It is almost unknown how our adolescents currently view homosexuality. Although the role of stigma contributes to adverse health outcomes, research gaps persist. Discrimination experiences related to obesity, sexual orientation and gender role orientation is probably the most common type of discrimination experienced in adolescents; however, the interaction between these types of discrimination and stigma has rarely been studied. Study Aims: (1) To examine the pathway from public stigma to discrimination experiences to disadvantaged social network position and adverse psychological outcomes, i.e., depression and anxiety; (2) To assess the interaction between gender, sexual orientation, femininity/masculinity and body image exists in the discrimination and stigma discourse among adolescents; (3) To determine network influences in association with discrimination and stigma experiences in adolescents using network measures, including but not limited to measures of centrality, brokerage, bridging, group and community detection

Methods: We will recruit 3,000 adolescents from three junior high schools from North, Middle and South Taiwan. For each school, we will recruit all three grades of students who are currently enrolled. Students who agree to participate with their parents' approval will fill out a self-reported survey in class. Besides the self-reported survey, we will link each participants' school record for their height, weight, and ranking in class as a more accurate source for body mass index (BMI) and academic performance. Partial Facebook data, such as friend lists and user-generated content will be extracted using Python programming language. Structural equation modeling and social network analysis will be conducted. Methods to test for moderation will depend on the analytic approach for each hypothesis.

Significance: Facebook has become a popular tool for public health and social science research. In this era, adolescents' behavior related to either discrimination or social networks is digitally mediated. It is necessary to observe both the real-life and Internet interactions. A major strength of the study is using two types of social network data collection method in one study: Nominating one's most important friend, and Facebook network data extraction. This is the first study to look at a complex interaction relationships between a few major sources of discrimination and stigma among adolescents in current society. Studying the interactions can help identify the most disadvantaged group, which will help inform school policy and develop interventions for future studies.

英文關鍵詞： adolescents; homophobia; gender role orientation; sexual orientation; stigma; discrimination; depression; masculinity; femininity

**Psychological pathway from obesity-related stigma to depression via internalized stigma and self-esteem among adolescents in Taiwan**

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## Abstract

**Purpose:** Weight-related stigma is the most prevalent type of discrimination in adolescents in Taiwan. However, studies that examined how public stigma is internalized in adolescents were rarely conducted in an Asian context. The objective of this research was to examine the pathway from public stigma, perceived stigma to depression in adolescents via internalized stigma and self-esteem.

**Methods:** Adolescents in grade 7 through 9 from a junior high school in Changhua County in Taiwan completed self-administered surveys during March to July in 2018. Adolescents were asked regarding depressive symptoms, obesity-related perceived stigma and internalized stigma. Social network data was retrieved by asking adolescents to report a maximum of five best friends from a student roster of the whole school, and was used to calculate the level of public stigma for each adolescent. Structural equation modeling was used to fit the pathway model. The pathway was first analyzed with the full sample and then stratified by actual and perceived weight status.

**Results:** Our final analytic sample consisted of 457 adolescents. The pathway model suggested an acceptable model fit (TLI=0.98, CFI=1.00, RMSEA=0.03). Public stigma was not significantly associated with perceived stigma. Significant pathways from perceived stigma to internalized stigma ( $b=0.68, p<.05$ ) and to self-esteem ( $b=-0.19, p<.05$ ) emerged. Self-esteem was significantly linked to depression ( $b=-0.61, p<.05$ ), but the link between internalized stigma and depression did not exist. Gender differences of the pathway were not observed.

**Conclusions:** Self-esteem is a more prominent mediator than internalized stigma in the pathway from perceived weight stigma to depression in our adolescent sample. Although weight-related discrimination may not affect depression via internalized obesity stigma, it impeded overall self-esteem for adolescents and in turn, led to depression. Interventions that aim to improve depressive symptom in adolescents suffering from obesity-related stigma should seek to improve their overall self-esteem.

## Key words

Stigma, obesity, depression

The study was funded by Taiwan Ministry of Science and Technology (MOST 106-2629-B-006-003, PI: Strong).

## INTRODUCTION

Stigma is a fundamental cause of population health inequalities (Hatzenbuehler, Phelan, & Link, 2013). In their seminal review, they pointed out that stigmatized status—including but not limited to minority sexual orientation, obesity, and mental illness—is the fundamental cause of disparities related to health, health care and social relationships (MHatzenbuehler et al., 2013). In a group of young black men who have sex with men (MSM), people reflected that family, peers, and communities have expectations of masculinity for them, which are associated with gender role strain and their HIV risk behaviors (Fields et al., 2015). Although the role of stigma has been confirmed to contribute to adverse health outcomes, research gaps persist. Most studies focused on one type of discrimination (Sikorski et al., 2015), but have rarely attempted to look at the synergistic effects of multiple discrimination on adolescents. Studies that examined how public stigma is internalized in adolescents is studied in Western countries but is rarely studied in an Asian context (Hatzenbuehler, 2009; Hatzenbuehler et al., 2015; Saewyc et al., 2014), which may be due to the more conservative cultural environments that have not implemented complete anti-bullying or anti-discrimination policies to protect sexual minorities or other forms of minorities such as weight- or immigration-related.

Minority Stress Paradigm provided a theoretical platform for the mechanism of public stigma. Minority Stress Paradigm stressed that sexual or racial minorities are more likely to exhibit psychopathological symptoms because they suffer from chronic stress caused by constantly trying to “fit in” the mainstream (Hatzenbuehler, 2009; Sikorski et al., 2015). Stigma against minorities in society “gets under the skin” via two processes: a general process, which includes coping, emotion regulation and interpersonal influences, and a group-specific process, which comes from the stress provoked by being different from the majority group and which in turn is internalized as self-stigma (Hatzenbuehler, 2009; Sikorski et al., 2015).

We hypothesized that the stigma and discrimination experiences are not only associated with psychopathology in adolescents, but also affect their health behavior, such as increasing the risk of substance use, and hinder their help-seeking when being victimized.

## METHODS

### PROCEDURES

All students in a junior high school in Chang-Hua County in Taiwan were approached (n=699) to see if they were interested in participating the study. Four hundred and sixty five students with parental consent were asked to fill out a self-reported survey in school (67%). Consents participants also agreed to have the survey linked to school records for height and

weight measured by school nurses. The study protocol was approved by human research ethics committee at the National Cheng Kung University Hospital (IRB: A-BR-106-009).

## MEASUREMENT

*Sociodemographics.* Participants will be asked about their age, parental education, parental marital status, number of siblings and whether their parents are immigrants.

*Body image.* Adolescents were asked how they perceive their current physical fitness on a scale of very thin, quite thin, just right, quite fat and very fat. We will ask them what their ideal weight is and to select a picture that looks most alike to what their physical fitness and their ideal physical fitness is like from a set of seven pictures with various body sizes.

*Weight-related stigma.* Several measures will be used to assess self-stigma, perceived discrimination experiences, and public stigma for adolescents. We used Beliefs About Obese Persons Scale (BAOP) to measure public stigma (Allison, Basile, & Yuker, 1991; Neumark-Sztainer, Story, & Harris, 1999). We will use the Weight Bias Internalization Scale (WBIS) and Weight Self-Stigma Questionnaire (WSSQ) to measure self-stigma related to weight (Durso & Latner, 2008).

*Psychological mechanisms and outcomes/Depression, anxiety and self-esteem.* We will use the 20-item Center for Epidemiologic Studies Depression Scale (CES-D) previously validated in Taiwanese adolescents (Cheng, Yen, Ko, & Yen, 2012). We will use the Hospital Anxiety Depression Scale (HADS) to measure anxiety (Upadhyaya & Stanley, 1993), a frequently translated scale that has been validated in Chinese-speaking populations (Leung et al., 1999). We will use the validated Chinese version of the Rosenberg Self-Esteem Scale (Rosenberg, Black, & Self-Esteem, 1971; Wu, 2008).

*Social network assessment/Name generator.* Name generator is a traditional but still commonly used social network analysis method to elicit names of network members from study participants (Cornwell & Hoagland, 2014). We used methods tailored from three sources in the literature: a study on young MSM in the U.S. (Birkett et al., 2015; Kuhns et al., 2015), the Chicago Health and Social Life Study (Van Haitsma, Paik, & Laumann, 2004), and the Taiwan Social Change Survey of 1997 (Son, Lin, & George, 2008). We will ask participants to list the most important five friends and the “most disliked” five people in school, an approach adapted from a recent paper by Fujimoto et al. (Fujimoto, Snijders, & Valente, 2017).

*Data analysis*

All the analyses were performed using R software, including the lavaan package for conducting multigroup structural equation modeling (SEM). In the multigroup SEM, we used the same model to conduct twice. The model hypothesized that PWS is associated with BAOP, WBIS, and anxiety; BAOP and WBIS are further associated with anxiety. One multigroup SEM used actual weight status to group the participants into OW or non-OW; another multigroup SEM used self-perceived weight status to group the participants into OW or non-OW. For both SEMs, we applied the same fit indices to examine the data-model fit, where a nonsignificant  $\chi^2$  test together with comparative fit index (CFI) > 0.9, standardized root mean square residual (SRMR) < 0.08, and root mean square error of approximation (RMSEA) < 0.08 indicate satisfactory fit.

## RESULTS

The participant characteristics are presented on Table 1. In brief, no significant differences were found between actual non-OW and actual OW participants in their age (M [SD]=14.1 [0.8] vs. 14.1 [0.8],  $p=0.56$ ), BAOP score (24.6 [3.5] vs. 24.6 [3.4],  $p=0.99$ ), and anxiety (13.1 [3.0] vs. 13.2 [2.9],  $p=0.64$ ). Actual OW group as compared with actual non-OW group had higher scores in PWS (11.0 [1.7] vs. 10.4 [1.2],  $p<0.001$ ) and WBIS (29.3 [6.2] vs. 24.8 [7.3],  $p<0.001$ ). Similar findings were shown for self-perceived weight status groups, except for the significant differences in anxiety: self-perceived OW group had high anxiety (13.6 [3.0]) than did self-perceived non-OW group (12.8 [2.9],  $p=0.006$ ).

(Insert Table 1 here)

Our proposed model had satisfactory fit as indicated by the nonsignificant  $\chi^2$  test (14.54 [10],  $p=0.15$  for SEM with multigroups on actual weight status; 15.53 [10],  $p=0.11$  for SEM with multigroups on self-perceived weight status) together with other fit indices (CFI=0.93, SRMR=0.034, and RMSEA=0.044 for SEM with multigroups on actual weight status; CFI=0.91, SRMR=0.034, and RMSEA=0.049 for SEM with multigroups on self-perceived weight status; Figure 1).

(Insert Figure 1 here)

The models further demonstrated that PWS was significantly associated with WBIS regardless actual or self-perceived weight status (standardized coefficient [ $\beta$ ]=0.246, 0.340, 0.210, and 0.350, for actual non-OW, actual OW, self-perceived non-OW, and self-perceived OW groups, respectively). WBIS was significantly associated with anxiety for both actual ( $\beta=0.186$ ) and self-perceived non-OW participants ( $\beta=0.170$ ) but not for OW participants (neither actual nor self-perceived). PWS was significantly associated with anxiety for both



actual ( $\beta=0.178$ ) and self-perceived OW participants ( $\beta=0.170$ ) but not for non-OW participants (neither actual nor self-perceived). Additionally, diverse findings were observed for the relationship between BAOP and anxiety: significant association was found for actual non-OW ( $\beta=-0.134$ ) and self-perceived OW participants ( $\beta=-0.179$ ), but not for actual OW and self-perceived non-OW participants (Figure 1).

## DISCUSSION

Self-esteem is a more prominent mediator than internalized stigma in the pathway from perceived weight stigma to depression in our adolescent sample. Although weight-related discrimination may not affect depression via internalized obesity stigma, it impeded overall self-esteem for adolescents and in turn, led to depression. Interventions that aim to improve depressive symptom in adolescents suffering from obesity-related stigma should seek to improve their overall self-esteem.

One study discussed the overlap of obesity- and sex-related issues by examining a sample of college students, in which students were asked to rank order of pictures of potential sexual partners (Chen & Brown, 2005). When choosing sex partners, people discriminate against obese individuals, particularly for male study participants (Chen & Brown, 2005). Across Western countries, men's conformity to masculine norms is associated with men's drive to achieve a certain body image, such as muscularity, leanness and fitness (Franko et al., 2015; Gattario et al., 2015). Among men in sexual minorities, the association between masculine appearance norm violations and body shame is mediated by body surveillance, an act that manifests self-objectification by constantly surveying one's body (Watson & Dispenza, 2015). Such studies in the literature show that although the interactions of sexual orientation, gender-role orientation, and body image have not been examined at the same time and are even sparser in adolescent populations, we may find interplay between these three factors. This is the next step of research in discrimination experiences in adolescents—to examine the interaction between major sources of stigma.

Table 1. Participant characteristics (N=464)

	M (SD)		t-value (p)	M (SD)		t-value (p)
	Actual non-OW (N=289)	Actual OW (N=175)		Perceived non-OW (N=248)	Perceived OW (N=213)	
Age (yr)	14.1 (0.8)	14.1 (0.8)	0.59 (0.56)	14.1 (0.8)	14.2 (0.8)	0.89 (0.37)
Gender (Male) <sup>a</sup>	133 (46.0%)	98 (56.0%)	4.34 (0.04)	135 (54.4%)	95 (44.6%)	4.43 (0.04)
Height (cm)	159.3 (7.6)	161.0 (8.1)	2.30 (0.02)	159.6 (8.2)	160.4 (7.5)	1.09 (0.28)
Weight (kg)	48.2 (7.3)	69.3 (13.5)	19.10 (<0.001)	48.8 (8.5)	65.0 (14.9)	13.97 (<0.001)
BMI (kg/m <sup>2</sup> )	18.9 (1.9)	26.6 (3.8)	24.76 (<0.001)	19.1 (2.3)	25.1 (4.6)	17.37 (<0.001)
PWS	10.4 (1.2)	11.0 (1.7)	4.49 (<0.001)	10.3 (1.3)	11.0 (1.6)	4.79 (<0.001)
BAOP	24.6 (3.5)	24.6 (3.4)	0.02 (0.99)	24.5 (3.5)	24.7 (3.5)	0.51 (0.61)
WBIS	24.8 (7.3)	29.3 (6.2)	6.94 (<0.001)	23.9 (7.2)	29.3 (6.0)	8.64 (<0.001)
Anxiety <sup>b</sup>	13.1 (3.0)	13.2 (2.9)	0.47 (0.64)	12.8 (2.9)	13.6 (3.0)	2.77 (0.006)

OW=overweight; BMI=body mass index; PWS=perceived weight stigma; BAOP=belief about obese persons; WBIS=weight bias internalized scale

<sup>a</sup> Presented using n (%).

<sup>b</sup> Assessed using Hospital Anxiety and Depression Scale.

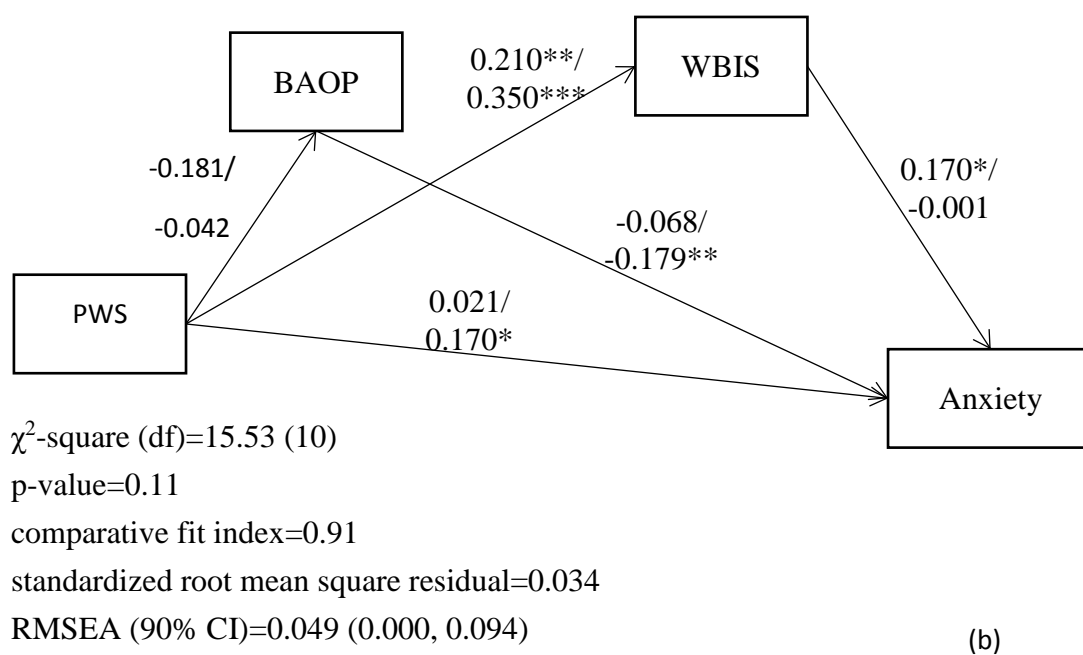
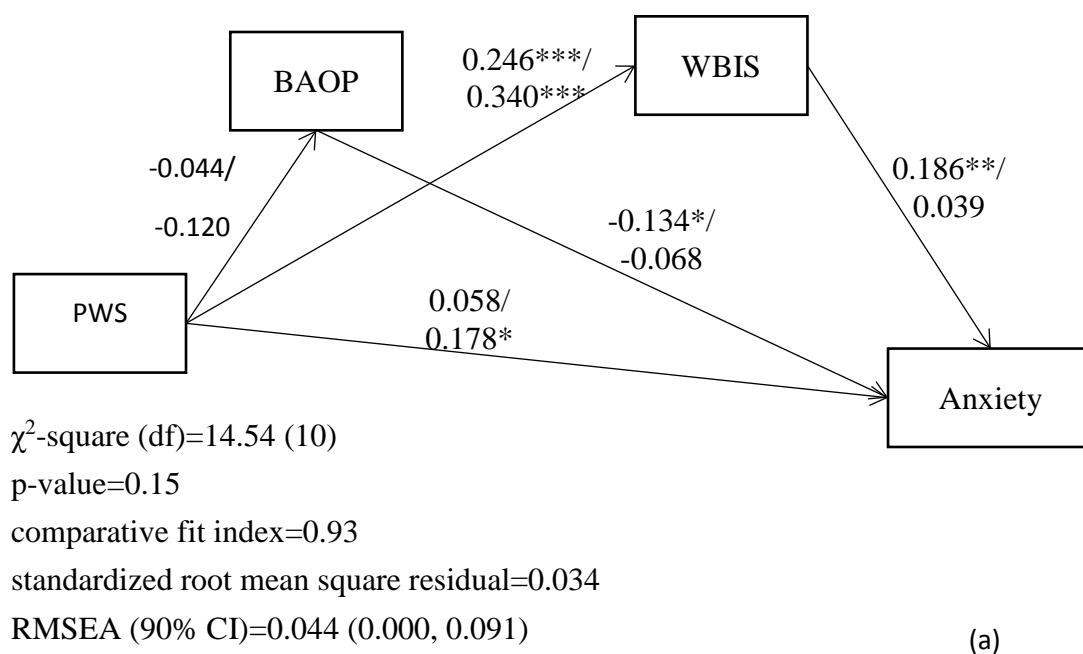


Figure 1. (a) Associations between weight bias and anxiety in real non-overweight/overweight students. (b) Associations between weight bias and depression in self-perceived non-overweight/overweight students.

BAOP=belief about obese persons; PWS=perceived weight stigma; WBIS=weight bias internalized scale; RMSEA=root mean square error of approximation. The models are adjusted for age and gender. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

## References

- Allison, D. B., Basile, V. C., & Yuker, H. E. (1991). The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders*, *10*(5), 599-607.
- Birkett, M., Kuhns, L. M., Latkin, C., Muth, S., & Mustanski, B. (2015). The sexual networks of racially diverse young men who have sex with men. *Archives of Sexual Behavior*, *44*(7), 1787-1797. doi:10.1007/s10508-015-0485-5 [doi]
- Chen, E. Y., & Brown, M. (2005). Obesity stigma in sexual relationships. *Obesity Research*, *13*(8), 1393-1397.
- Cheng, S., & Chan, A. C. (2003). Factorial structure of the Kidcope in Hong Kong adolescents. *The Journal of Genetic Psychology*, *164*(3), 261-266.
- Cheng, C. P., Yen, C. F., Ko, C. H., & Yen, J. Y. (2012). Factor structure of the center for epidemiologic studies depression scale in Taiwanese adolescents. *Comprehensive Psychiatry*, *53*(3), 299-307. doi:10.1016/j.comppsy.2011.04.056 [doi]
- Durso, L. E., & Latner, J. D. (2008). Understanding Self-directed stigma: Development of the weight bias internalization scale. *Obesity*, *16*(S2), S80-S86.
- Franko, D. L., Fuller-Tyszkiewicz, M., Rodgers, R. F., Gattario, K. H., Frisén, A., Diedrichs, P. C., . . . Thompson-Brenner, H. (2015). Internalization as a mediator of the relationship between conformity to masculine norms and body image attitudes and behaviors among young men in Sweden, US, UK, and Australia. *Body Image*, *15*, 54-60.
- Hatzenbuehler, M. L., Phelan, J. C., & Link, B. G. (2013). Stigma as a fundamental cause of population health inequalities. *American Journal of Public Health*, *103*(5), 813-821.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York: Guilford Press. Retrieved from <http://www.loc.gov/catdir/bios/guilford051/2004019784.html>; <http://www.loc.gov/catdir/description/guilford051/2004019784.html>; <http://www.loc.gov/catdir/toc/ecip0422/2004019784.html>
- Neumark-Sztainer, D., Story, M., & Harris, T. (1999). Beliefs and attitudes about obesity among teachers and school health care providers working with adolescents. *Journal of Nutrition Education*, *31*(1), 3-9.
- Oransky, M., & Fisher, C. (2009). The development and validation of the meanings of adolescent masculinity scale. *Psychology of Men & Masculinity*, *10*(1), 57.
- Poteat, V. P., & Espelage, D. L. (2005). Exploring the relation between bullying and homophobic verbal content: The homophobic content agent target (HCAT) scale. *Violence and Victims*, *20*(5), 513-528.
- Rosenberg, M., Black, S. R., & Self-Esteem, W. (1971). The urban school child. *Washington, DC: American Sociological Association*,
- Sikorski, C., Luppá, M., Luck, T., & Riedel-Heller, S. G. (2015). Weight stigma "gets under the skin"-evidence for an adapted psychological mediation framework: A systematic review. *Obesity (Silver Spring, Md.)*, *23*(2), 266-276. doi:10.1002/oby.20952 [doi]

- Son, J., Lin, N., & George, L. K. (2008). Cross-national comparison of social support structures between taiwan and the united states. *Journal of Health and Social Behavior, 49*(1), 104-118.
- Spirito, A., Stark, L. J., & Williams, C. (1988). Development of a brief coping checklist for use with pediatric populations. *Journal of Pediatric Psychology, 13*(4), 555-574.
- Strong, C., Tsai, M. C., Lin, C. Y., & Cheng, C. P. (2015). Childhood adversity, timing of puberty and adolescent depressive symptoms: A longitudinal study in taiwan. *Child Psychiatry and Human Development*, doi:10.1007/s10578-015-0570-y [doi]
- Upadhyaya, A. K., & Stanley, I. (1993). Hospital anxiety depression scale. *The British Journal of General Practice : The Journal of the Royal College of General Practitioners, 43*(373), 349-350.
- Wu, C. (2008). An examination of the wording effect in the rosenberg self-esteem scale among culturally chinese people. *The Journal of Social Psychology, 148*(5), 535-552.

# 科技部補助專題研究計畫出席國際學術會議心得報

## 告

日期：2018 年 7 月 31 日

計畫編號	MOST 106-2629-B-006-003		
計畫名稱	Discrimination and Internalized Stigma Related to Femininity/Masculinity, Homophobia and Body Image: Influence on Adolescents' Network Position and Mental Health (K01)		
出國人員姓名	莊佳蓉 Carol Strong	服務機構及職稱	國立成功大學醫學系公共衛生科暨研究所
會議時間	22-27 July 2018	會議地點	Amsterdam, Netherland
會議名稱	(中文)第二十二屆國際愛滋病大會 (英文) 22th International AIDS Conference (AIDS 2018), Amsterdam, Netherland, 22-27 July 2018		
發表題目	(中文) 台灣整合性 HIV 預防和藥愛照顧服務: HERO 模式 (英文) An Integrated ChemSex Care and HIV Prevention Service in Taiwan: The HERO Healing, Empowerment, Recovery of ChemSex Model.		

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## 一、參加會議經過

I am the lead author for one poster and the corresponding author for the other. I am also co-presenting two other posters. I met Simon Howell, the founder of Hornet. He's got some very interesting ideas about social network analysis. One of my goal this time is to learn how people develop sex education for youth. Here is the Dutch approach:

- Positive approach: we also talk about falling in love
- Raise sexually healthy generations
- Support in every stage of sexual career
- Mix of interventions and services
- Co-creation with health organizations and young people

Another focus this time is chemsex. We presented a few posters regarding chemsex. People who did research in chemsex also talked to us about their experiences.

Christophe Fraser from University of Oxford presented a few talks related to sexual networks, transmission modeling and genetic tree research. Specifically, he talked about the PANGEA-HIV consortium, which included 6 epidemiology research centers in Africa.



## 二、與會心得

There is a talk by a collaborator with Matthew Mimiga at the Brown University School of Public Health that I found particularly interesting. The talk is about behavioral activation integrated with sexual risk reduction counseling for high-risk MSM with crystal meth dependence. They saw infections in MSM in boston among meth users. This really narrow other activities in their life. So they drew from cognitive behavioral therapy and were inspired by treatment for depression. They tired to renegade life activities that they found pleasurable. They conducted a small RCT with outcome being condom use.

Also, deputy chair of Taiwan CDC Philip Lo gave an amazing talk. The floor is full. He talked about the co-infection of HIV and hepatitis in Taiwan. We all thought that this was the best prepared talk in the conference. Audience gave him very good review. He answered questions from the audience in a very organized way. Very impressive.

### 三、發表論文全文或摘要

**Strong C**, Chung AC, Li WS, Pan CY, Chang YJ, Chang Chien YJ, Wu HJ, Hsu ST, Ko NY\* (2018). An Integrated ChemSex Care and HIV Prevention Service in Taiwan: The HERO Healing, Empowerment, Recovery of ChemSex Model. Poster presentation at the 22th International AIDS Conference (AIDS 2018), Amsterdam, Netherland, 22-27 July 2018. Abstract THPEE802

Huang P, Wu HJ, Jan FM, Mao LW, Ko NY\*, Li CW, Cheng CY, **Strong C**, Ku SWW (2018). A Qualitative Analysis of Sexual Communication and Uncertainty Management among Participants in Taiwan CDC PrEP Demonstration Project. Poster presentation at the 22th International AIDS Conference (AIDS 2018), Amsterdam, Netherland, 22-27 July 2018. Abstract TUPED356.

Ku SWW, Huang P, Garner A, Bourne A, **Strong C**, Chen SS, Huang PC, Jan FM, Howell S, Ko NY\*, Wong WW (2018). Willingness and actual use of pre-exposure prophylaxis in men who have sex with men in Taiwan: Results from a 2017 Hornet/HEART survey. Poster presentation at the 22th International AIDS Conference (AIDS 2018), Amsterdam, Netherland, 22-27 July 2018. Abstract WEPEC216.

Wu HJ, **Strong C**, Ku SWW, Li CW, Cheng CY, Tsai HC, Lee CY, Huang ST, Ko NY\*, Huang YF (2018). Syphilis acquisition and dosing schedule for pre-exposure prophylaxis (PrEP) users in Taiwan PrEP demonstration project. Poster presentation at the 22th International AIDS Conference (AIDS 2018), Amsterdam, Netherland, 22-27 July 2018. Abstract LBPEC035

## An Integrated ChemSex Care and HIV Prevention Service in Taiwan: The HERO Healing, Empowerment, Recovery of ChemSex Model

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7. Division of Disease Control, Department of Health, Kaohsiung City Government, Kaohsiung, Taiwan.

### **Background:**

The rising trend of combining use of recreational drugs during sex (ChemSex) in Taiwan has become a critical contributor in the HIV epidemic. The existing health care model that tackles substance abuse, sexual health and HIV prevention independently is no longer desirable. A model of integrated health services that simultaneously addresses these health issues and provides a safe environment for people under the influence of ChemSex may effectively improve HIV prevention and quality of life.

### **Description:**

We established HERO integrated service (Healing, Empowerment, Recovery of ChemSex) in Southern Taiwan in 2017 to cope with ChemSex epidemic and sexual health problems for at risk population, inspired by the 56 Dean Street model in London. The main services HERO provided include HIV/STI testing and rapid link to treatment, consultation and prescription for pre-exposure prophylaxis (PrEP), and ChemSex support group. To evaluate the effectiveness of the integrated service, we developed an evaluation plan based on the logic model of change at both individual and health service levels. Clients visited the service were asked to fill out an online survey after providing consent. Administrative data were collected to measure changes toward the expected program goals.

### **Lessons learned:**

Since HERO opened in November 25 in 2017, there has been 65 clients visited, while

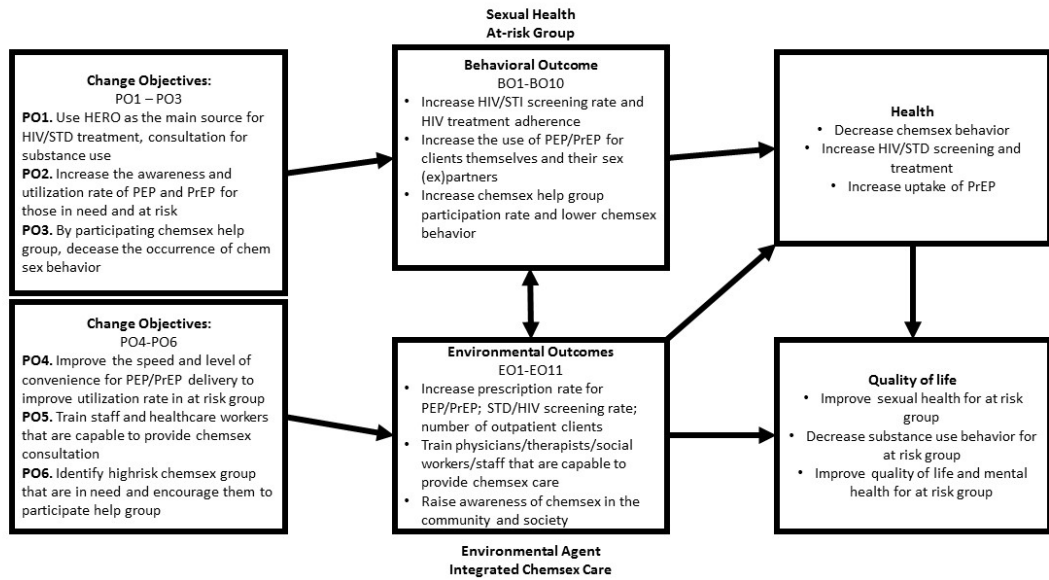
93.8% used HIV screening service, 7.7% received PrEP consultation and 10.8% joined ChemSex support group. The average age was 29.0 years and the majority were males (87.8%) and self-identified as homosexual or bisexual (83.1%). Among all, 38.5% reported having ChemSex in the past month, 23.1% scored moderate anxiety or higher and 6.2% scored moderate depression or higher. Out of five people receiving PrEP consultation, 60% started using PrEP. For the ChemSex support group, 28.6% set their goal to be abstinent, 28.6% would like to stop using substance temporarily and 42.9% not sure what their goals were.

**Next steps:**

HERO as the first integrated service for sexual health in Asia, our experiences and evaluation will provide insight on the development and implementation of integrated health care model for HIV and ChemSex prevention for people under the influence of drugs that engaged in HIV/STI transmission risk behavior.

**KEYWORDS:** ChemSex, men who have sex with men, integrated care, health service, implementation, monitoring and evaluation

**Figure. Evaluation plan for HERO based on the logic model of change**



#### 四、建議

This conference covers a large variety of topics, but with the short conference meeting time, many sessions were overlapped and shared the same timeframe. In the future, the conference could consider extend the meeting time and have the sessions more spread out.

This is one of the largest academic conference in HIV/AIDS globally. It provided amazing opportunities for networking. I met many friends and new people that I get to work with in the future.

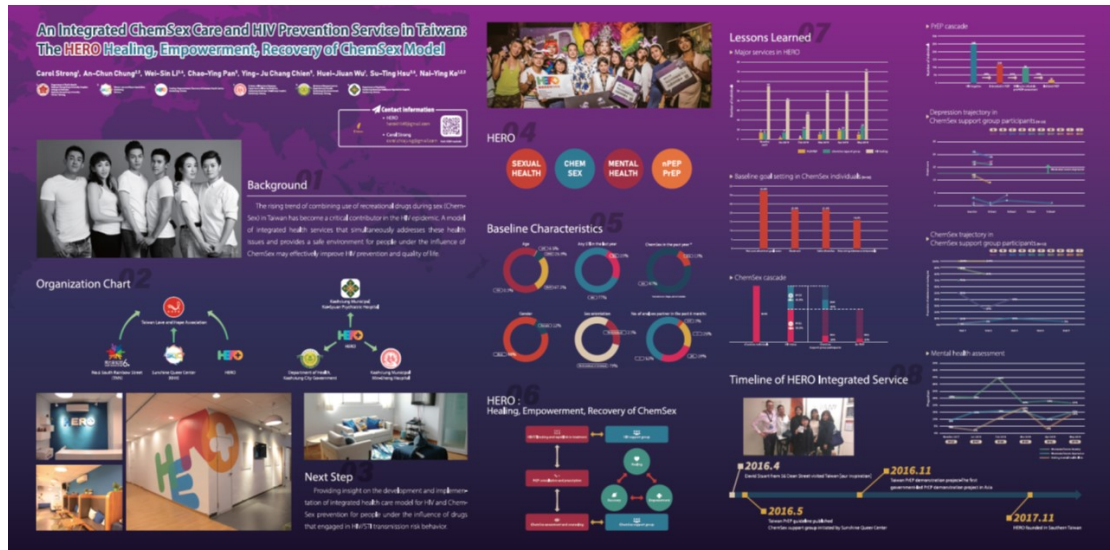
## 五、攜回資料名稱及內容

Slides and notes of talks and workshops.

Topics:

- Youth and adolescents
- PrEP
- Chemsex
- Slamming kit

## 六、其他-Poster





106年度專題研究計畫成果彙整表

計畫主持人：莊佳蓉			計畫編號：106-2629-B-006-003-				
計畫名稱：關於陰柔/陽剛氣質、恐同、身體意象的歧視和內化：對青少年社會網絡位置和精神健康的影響 (K01)							
成果項目			量化	單位	質化 (說明：各成果項目請附佐證資料或細項說明，如期刊名稱、年份、卷期、起訖頁數、證號...等)		
國內	學術性論文	期刊論文		0	篇	Our abstract, Psychological pathway from obesity-related stigma to depression via internalized stigma and self-esteem among adolescents in Taiwan has been accepted for a Poster Symposia III: Adolescent Mental Health oral presentation at the 2019 Annual Meeting of the Society for Adolescent Health and Medicine at the Washington Marriott Wardman Park hotel in Washington, DC, USA in March, 2019.	
		研討會論文		1			
		專書		0			本
		專書論文		0			章
		技術報告		0			篇
		其他		0			篇
	智慧財產權及成果	專利權	發明專利	申請中	0	件	
				已獲得	0		
			新型/設計專利		0		
		商標權		0			
		營業秘密		0			
		積體電路電路布局權		0			
		著作權		0			
		品種權		0			
		其他		0			
		技術移轉	件數		0		件
	收入		0	千元			
國外	學術性論文	期刊論文		0	篇		
		研討會論文		0			
		專書		0		本	
		專書論文		0		章	
		技術報告		0		篇	
		其他		0		篇	

智慧財產權 及成果	專利權	發明專利	申請中	0	件	
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		新型/設計專利		0		
	商標權		0			
	營業秘密		0			
	積體電路電路布局權		0			
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	其他		0			
	技術移轉	件數		0		件
收入		0	千元			
參與計畫 人力	本國籍	大專生		0	人次	
		碩士生		0		
		博士生		0		
		博士後研究員		0		
		專任助理		0		
	非本國籍	大專生		0		
		碩士生		1		部分資料和結果為碩士生劉志祥的碩士畢業論文
		博士生		0		
		博士後研究員		0		
		專任助理		0		
其他成果 (無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)						

# 科技部補助專題研究計畫成果自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現（簡要敘述成果是否具有政策應用參考價值及具影響公共利益之重大發現）或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

達成目標

未達成目標（請說明，以100字為限）

實驗失敗

因故實驗中斷

其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形（請於其他欄註明專利及技轉之證號、合約、申請及洽談等詳細資訊）

論文： 已發表  未發表之文稿  撰寫中  無

專利： 已獲得  申請中  無

技轉： 已技轉  洽談中  無

其他：（以200字為限）

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性，以500字為限）

為了了解青少年在肥胖上常受到的歧視與汙名化經驗，本研究從歧視到歧視內化的路徑，再進而影響青少年的社會網絡位置和精神健康。本研究結果可以幫助識別最弱勢群體，有助於制訂未來政策。本研究回應科技部性別與科技研究的重點主題「性別友善環境之研究」(K01) 考量多元性別在教育場域及職場互動中處境的計畫徵求。這筆關於青少年常感受到的歧視與汙名化經驗資料，對於未來教育體系該如何協助弱勢青少年有重大幫助。

4. 主要發現

本研究具有政策應用參考價值： 否  是，建議提供機關教育部，  
（勾選「是」者，請列舉建議可提供施政參考之業務主管機關）

本研究具影響公共利益之重大發現： 否  是

說明：（以150字為限）